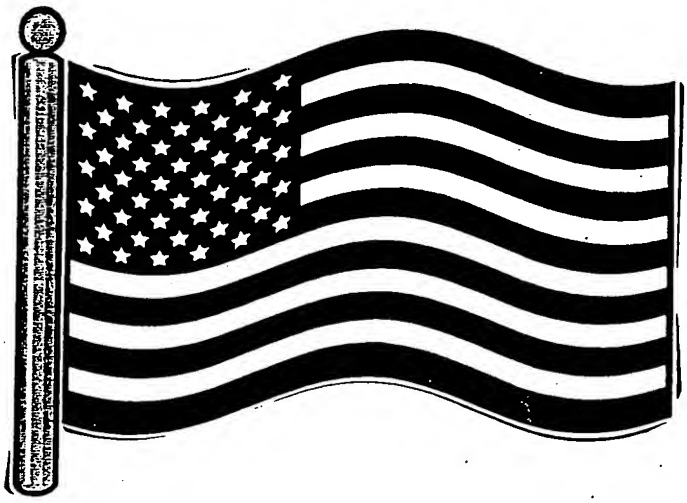
SUBJECT TO PRIVACY ACT



THIS DOCUMENT CONTAINS

PERSONAL INFORMATION

PROTECTED BY THE PRIVACY ACT (5USC552A)

Standard Form 52
Rev. 7/91
U.S. Office of Personnel Management
FPM Supp. 296–33, Subch. 3

REQUEST FOR PERSONNEL ACTION

PART A – Requesting Office (Also complete Part B, Items 1, 7–22, 32, 33, 36, and 39.)

1. Actions Requested	2. Request Number
Separation	01DEC4ALRDI200064879
3. For Additional Information Call (Name and Telephone Number)	**4. Proposed Effective Date**
Patricia L. Flynn 7325321460	01–04–2002

5. Action Requested By (Name, Title, Signature, and Request Date)	6. Action Authorized By (Name, Title, Signature, and Concurrence Date)
Gloria J. Incao	Jan W. Moren
LEAD ADMINISTRATIVE OFFICER 12–11–2001	SUPV ELECTRONICS ENGINEER 12–12–2001

PART B – For Preparation of SF 50 (Use only codes in FPM Supplement 292–1. Show all dates in month–day–year order.)

1. Name (Last, First, Middle)	2. Social Security Number	3. Date of Birth	4. Effective Date
SAHBA, SHAPUR NMN	219–06–7375	07–20–1956	01–04–2002

FIRST ACTION		SECOND ACTION	
5–A. Code: 317	5–B. Nature of Action: Resignation	6–A. Code: —	6–B. Nature of Action
5–C. Code: RPM	5–D. Legal Authority: Reg 715.202	6–C. Code	6–D. Legal Authority
5–E. Code	5–F. Legal Authority	6–E. Code	6–F. Legal Authority

7. FROM: Position Title and Number	15. TO: Position Title and Number
ELECTRONICS ENGINEER 01128 – 16335	

8. Pay Plan	9. Occ.Code	10.Grade/Level	11.Step/Rate	12. Total Salary	13. Pay Basis
GS	0855	12	04	$60,269.00	PA

12A. Basic Pay	12B. Locality Adj.	12C. Adj. Basic Pay	12D. Other Pay
$57,865.00	$2,404.00	$60,269.00	$0

16. Pay Plan	17. Occ. Code	18.Grade/Level	19.Step/Rate	20. Total Salary/Award	21. Pay Basis

20A. Basic Pay	20B. Locality Adj.	20C. Adj. Basic Pay	20D. Other Pay

14. Name and Location of Position's Organization	22. Name and Location of Position's Organization
RDEC USA CECOM, RD&E CENTER INTELLIGENCE & INFORMATION WARFARE DIR (I2WD) SIG/INT & PAYLOAD INTEGRATION D (JDG) FORT MONMOUTH NJ 07703	

EMPLOYEE DATA

23. Veterans Preference	24. Tenure	25. Agency Use	26. Veterans Preference for RIF
1 (1 – None, 2 – 5–Point, 3 – 10–Point/Disability, 4 – 10–Point/Compensable, 5 – 10–Point/Other, 6 – 10–Point/Compensable/30%)	1 (0 – None, 1 – Permanent, 2 – Conditional, 3 – Indefinite)		YES / X NO

27. FEGLI	28. Annuitant Indicator	29. Pay Rate Determinant
90 Basic + Option B (3x)	9 Not Applicable	6

30. Retirement Plan	31. Service Comp. Date (Leave)	32. Work Schedule	33. Part–Time Hours Per Biweekly Pay Period
K FERS and FICA	08–21–1995	F Full–Time	

POSITION DATA

34. Position Occupied	35. FLSA Category	36. Appropriation Code	37. Bargaining Unit Status
1 (1 – Competitive Service, 2 – Excepted Service, 3 – SES General, 4 – SES Career Reserved)	E (E – Exempt, N – Nonexempt)	62227090SKB |	AR3757

38. Duty Station Code	39. Duty Station (City – County – State or Overseas Location)
341065025	FT MONMOUTH / MONMOUTH / NEW JERSEY

40. Agency Data	41.	42.	43.	44.
jmg	PON# CA			TDA DATA X8/W4G8AA/567/80

45. Educational Level	46. Year Degree Attained	47. Academic Discipline	48. Functional Class	49. Citizenship	50. Veterans Status	51. Supervisory Status
21	2000	141001	13	1 (1–USA 8–Other)	X	8

PART C – Reviews and Approvals (Not to be used by requesting office.)

1. Office/Function	Initials/Signature	Date	Office/Function	Initials/Signature	Date
A.	Flynn, Patricia L	12–14–2001	D.		
B.	Cevis, Sharon Ann	12–14–2001	E.		
C.	Grant, Joan Martha	01–07–2002	F.		

2. Approval: I certify that the information entered on this form is accurate and that the proposed action is in compliance with statutory and regulatory requirements.	Signature	Approval Date
	Joan M. Grant Designated Approving Official	01–07–2002

CONTINUED ON REVERSE SIDE
52–119

OVER

Editi[on] Prior to 7/91 Are Not Usable After 6/30/93
NSN 7540–01–333–62

PART D – Remarks by Requesting Office

(Note to Supervisors: Do you know of additional or conflicting reasons for the employee's resignation/retirement? If "YES", please state these facts on a separate sheet and attach to SF 52.) ☐ YES ☐ NO

PART E – Employee Resignation/Retirement

Privacy Act Statement

You are requested to furnish a specific reason for your resignation or retirement and a forwarding address. Your reason may be considered in any future decision regarding your re–employment in the Federal service and may also be used to determine your eligibility for unemployment compensation benefits. Your forwarding address will be used primarily to mail you copies of any documents you should have or any pay or compensation to which you are entitled.

This information is requested under authority of sections 301, 3301, and 8506 of title 5, U.S. Code. Sections 301 and 3301 authorize OPM and agencies to issue regulations with regard to employment of individuals in the Federal service and their records, while section 8506 requires agencies to furnish the specific reason for termination of Federal service to the Secretary of Labor or a State agency in connection with administration of unemployment compensation programs.

The furnishing of this information is voluntary; however, failure to provide it may result in your not receiving: (1) your copies of those documents you should have; (2) pay or other compensation due you; and (3) any unemployment compensation benefits to which you may be entitled.

1. Reasons for Resignation/Retirement (NOTE: Your reasons are used in determining possible unemployment benefits. Please be specific and avoid generalizations. Your resignation/retirement is effective at the end of the day – midnight – unless you specify otherwise.)

Establishing his own business.

2. Effective Date	3. Your Signature	4. Date Signed	5. Forwarding Address (Number, Street, City, State, Zip Code)
			Po Box 1684 Wall NJ 07719–1684

PART F – Remarks for SF 50

M67	Forwarding address: PO Box 1684 Wall, NJ 07719–1684.
N27	Lump–sum payment to be made for any unused annual leave.
B53	Health benefits coverage is extended for 31 days during which you are eligible to convert to an individual policy (nongroup contract).You are also eligible for temporary continuation of your FEHB coverage for up to 18 months.
B46	SF 2819 was provided. Life insurance coverage is extended for 31 days during which you are eligible to convert to an individual policy (nongroup contract).
342	SF–293 issued.
ZZZ	SF–8 issued.
ZZZ	You must contact the Army Benefits Center – Civilian at www.abc.army.mil or 1–877–276–9287 to find out how this personnel action may impact your benefits.
R19	Reason for resignation: establishing own business.

RECORD OF INVENTION

U.S. ARMY MATERIEL COMMAND

(AMC-R 825-2)

CECOM 5458

(To be attached as cover sheet to detailed description of the invention)

1. NAME OF INVENTOR(S)	2. ADDRESS OF INVENTOR(S):	3. STATUS OF INVENTOR(S), MIL OR CIV:
SHAPUR SAHBA	P.O. Box 1684 WALL, NJ 07719	GS-855-12 Civilian

4. INVENTION TITLE:

5. INVENTION HISTORY:

FEATURE	DATE	PLACE OF ACTION OR NAMES OF PERSONS
(a) Conception of Invention	Sep. 1996	U.S. ARMY, CECOM, CAMP-EVANS
(b) First Sketch or Drawing	Sep. 1996	U.S. ARMY, CECOM, CAMP-EVANS
(c) First Written Description	Sep. 1996	U.S. ARMY, CECOM, CAMP-EVANS Tested Copper version
(d) Disclosure to Others	Sep. 1996	U.S. ARMY, CECOM, CAMP-EVANS
(e) Completion of Model	Jan. 2000	U.S. ARMY, CECOM, RDEC-I2WD
(f) Completion of Full-Scale Item	in Progress	U.S. ARMY, CECOM, RDEC-I2WD
(g) First Test of Inventive Item	in Progress	U.S. ARMY & Columbia University

6. INDIVIDUALS HAVING FIRSTHAND KNOWLEDGE OF ANY OF THE FEATURES OF THE INVENTION HISTORY:

NAME	ADDRESS	FEATURE
Dr. ERNI POTENZIANI	U.S. ARMY, CECOM, RDEC-I2WD	
Dr. Chul Oh	U.S. ARMY, CECOM, RDEC-I2WD	

7. RESULTS OF TEST: ☒ SUCCESSFUL ☐ MARGINALLY SUCCESSFUL ☐ UNSUCCESSFUL

8. REPOSITORIES OF INVENTION DATA:

DOCUMENT TITLE	LOCATION
Double-Sided HTS Micro-Antennae Configurations (Three Structures).	U.S. Army, CECOM, RDEC I2WD

9. INVENTION PUBLICATION (DISCLOSED OUTSIDE OF GOVERNMENT):

PUBLICATION MEDIA	DATE OF PUBLICATION
No Publication in complete form has been made, However an abstract is forwarded to IEEE, and ful-length paper & Conference material will be given in sept. 200, Applied superconductivity	To be published, and oral presentation will be given in IEEE, ASC in Sept. 2000.

10. KNOWN RELATED PATENTS AND APPLICATIONS:

NONE

11. THE ATTACHED INVENTION DISCLOSURE HAS BEEN READ AND UNDERSTOOD BY TWO WITNESSES WHO HAVE SIGNED A STATEMENT TO THIS EFFECT AT THE END THEREOF.

DATE: 05-03-2000 INVENTOR SIGNATURE _____

DATE: _____ INVENTOR SIGNATURE _____

12. JURISDICTIONAL PATENT ACTIVITY:

DISCLOSURE OF INVENTION

ARMY DOCKET NO.: CECOM 5458

A. BRIEF DESCRIPTIVE TITLE: Double-Sided High-Temperature SUPERCONDUCTING MICRO-ANTENNAE (THREE CONFIGURATIONS)

B. BACKGROUND: Field - Background - Summary attached are the Layouts & Results of simulation & MODELING.

The idea of Design, Fabrication & characterization of Double-sided High-Temperature Superconducting Micro-ANTENNAE was originated in 1996.

The First attempt was made in 1996, the [redacted] Preliminary devices were Fabricated in 1996 & 1999.

The Preliminary results of Test & Characterization was used in making necessary design modifications.

The Final design was completed in Jan. 2000, and Three configurations were simulated with extremely successful results. The actual antennae are being Fabricated, and should be tested by the end of June 2000.

C. DESCRIPTION: Three HTS Micro-Antennae can operate between 500 MHz and 10 GHz, having many resonant frequency response. The devices use single LAO (Lanthanum Aluminate) substrate, with [redacted] both sides having YBCO High-Tc material deposited & patterned.

* One structure is an end-Fed Spiral (both sides)
* One structure is a Folded log-periodic (both sides)
* one structure is a Curvilinear Fractal structure (both sides).

The Preliminary device Layout & simulation results are attached to this application.

The sizes of the devices (substrate size) are 20 mm x 20 mm. Please see attached.

These antennae are extremely efficient & sensitive. They can be used both for military and civilian applications, particularly cell-phone Base Stations and satellite Communications.

These antennae operate at temperatures below the Critical

temperatures of the High-Temperature superconducting YBCO ($T_c = 92^\circ K$). The most feasible environment would be the liquid Nitrogen (with $77^\circ K$ boiling temperature).

Note: The advantages of these antennae, are the double-Sided structure that reduces the size, The low SURFACE loss which is the inherent property of superconductor, and the new design approach which gives an extremely high-Q value.

The main applications can be in Military & satellite communications as well as the Cell-phone Base stations for Commercial applications.

D. REFERENCES: Please see attached three layouts of the device, as well as the simulation results for each device.

E. COMMERCIAL APPLICATIONS and POTENTIAL LICENSEES: Extremely Small, Sensitive, and high efficiency Antennae for cellular Phone Base stations and satellite Communications.

F. INVENTORSHIP: These Antennae, are extremely Sensitive and best used for receive purposes. Additional information provided above!

READ AND UNDERSTOOD BY: (Two Witnesses - NOT INVENTORS ON THIS DISCLOSURE)

Ernest Poterzian, Ph.D. / Ernest Poterzian — AMSEL-RD-IW-SC
Witness (Typed Name/Signature) — COMMAND/LAB SYMBOL/Office Ext.

Chul H. Oh, Ph.D. / Chul H. Oh — AMSEL-RD-IW-SC
Witness (Typed Name/Signature) — COMMAND/LAB SYMBOL/Office Ext.

DISCLOSURE PREPARED BY: (Inventor(s) Typed Name(s), Signature(s), Date) AMSEL-RD-IW-SC

Shapur Sahba, Ph.D., only inventor, — 04-25-2000
Inventor's Typed Name & Signature/Date — COMMAND/LAB SYMBOL/Office Ext.

— X — NONE — X — X
Inventor's Typed Name & Signature/Date — COMMAND/LAB SYMBOL/Office Ext.

CECC15458

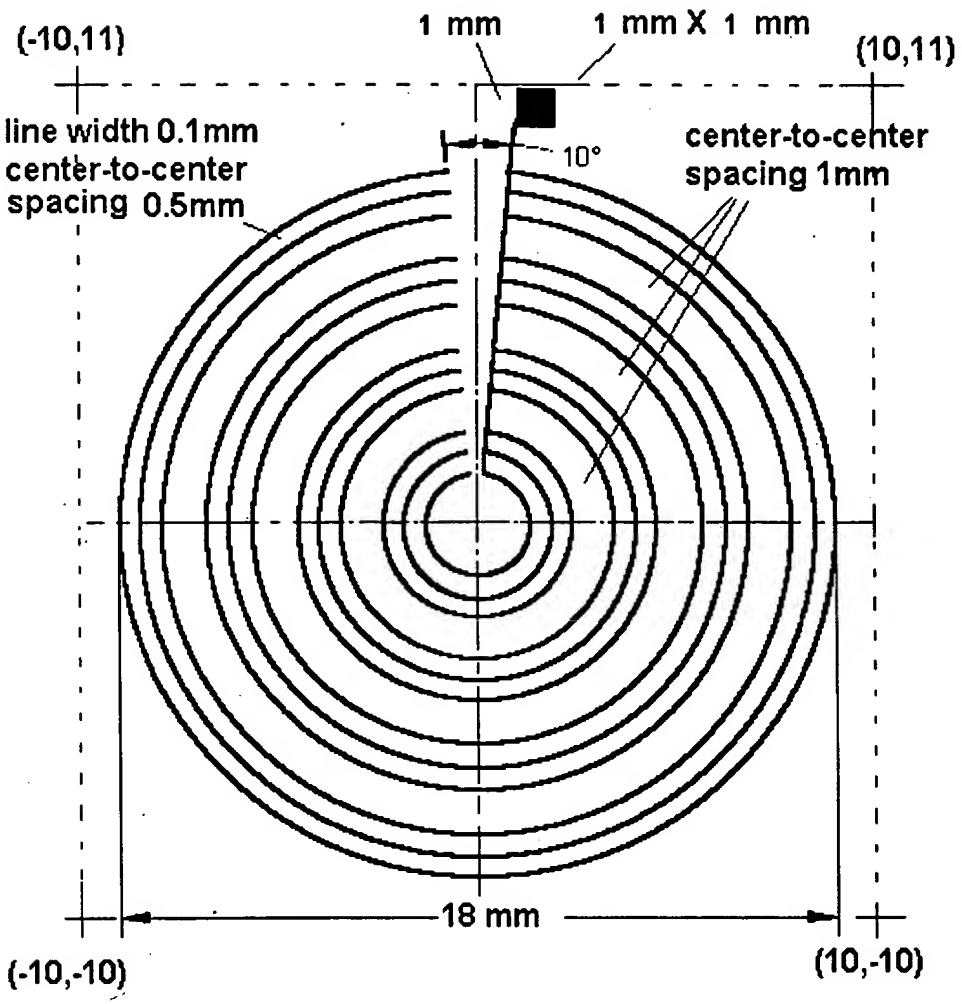


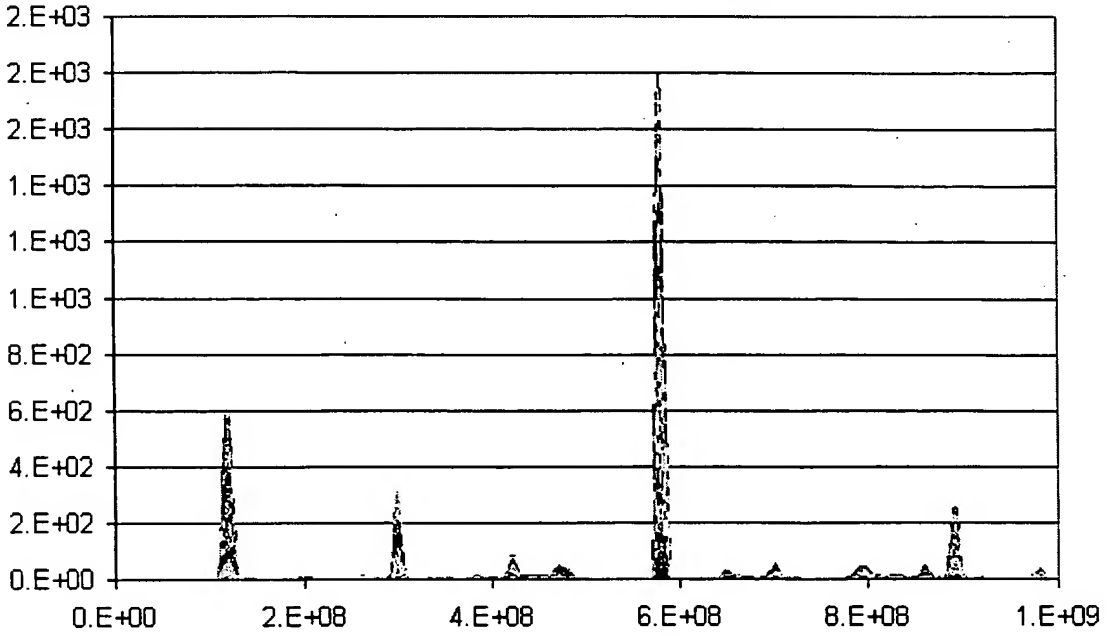
Fig 5 Structure of 12-big-circle

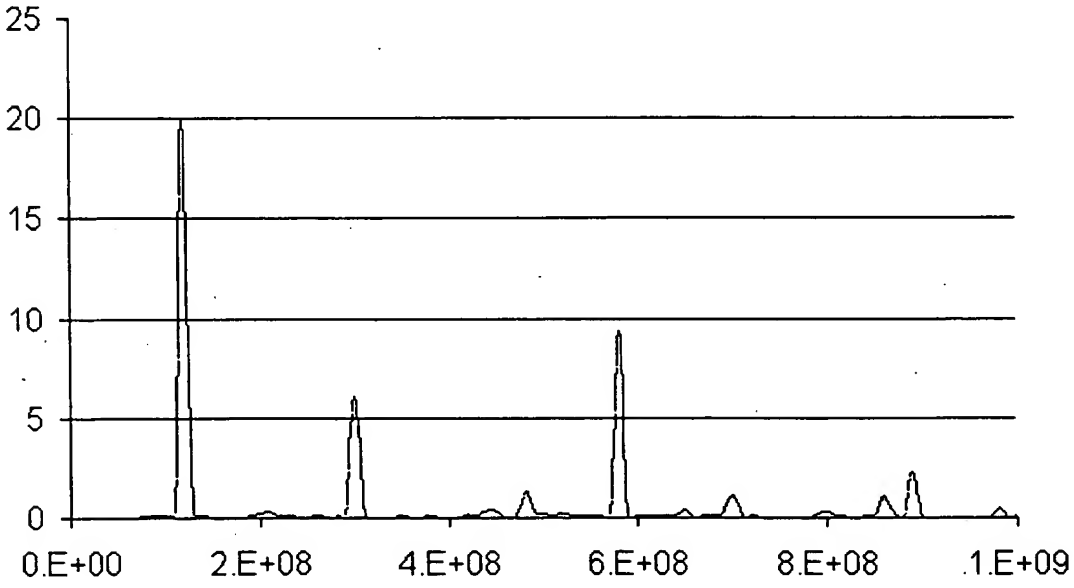
Fig. 5 Structure of 12-circle

Double-Sided HTS Curvilinear-Fractal Micro-Antenna. Both sides of a single LAO substrate have the above configuration patterned on YBCO Thin-Film Superconductor

Antenna Projest

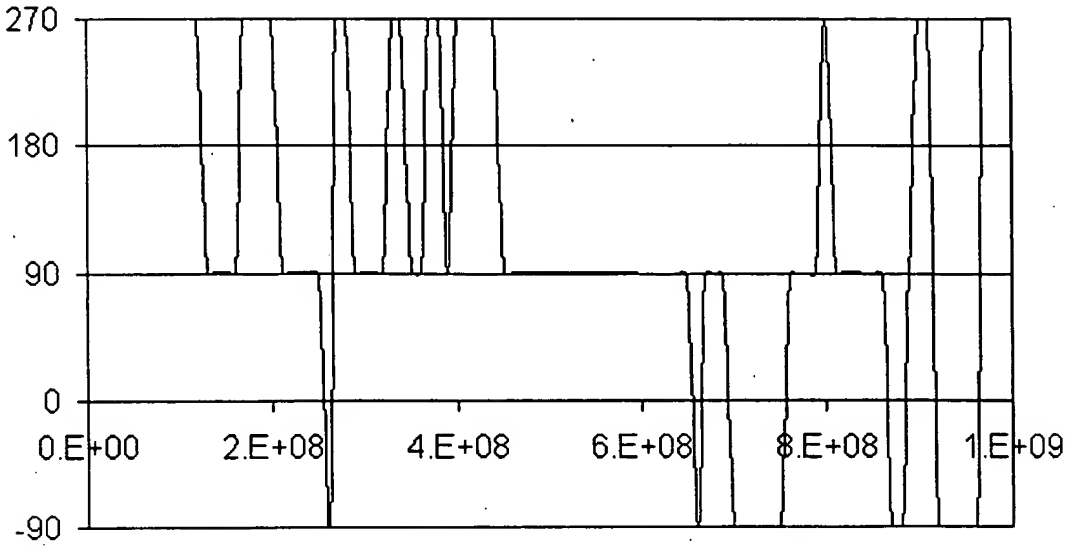
Simulation results of a Curvilinear Fractal HTS Micro-Antenna





I_{input}-Frequncy

Simulation results of Curvilinear Fractal HTS Micro-Antenna



$I_{input\text{-}phase}$-Frequncy

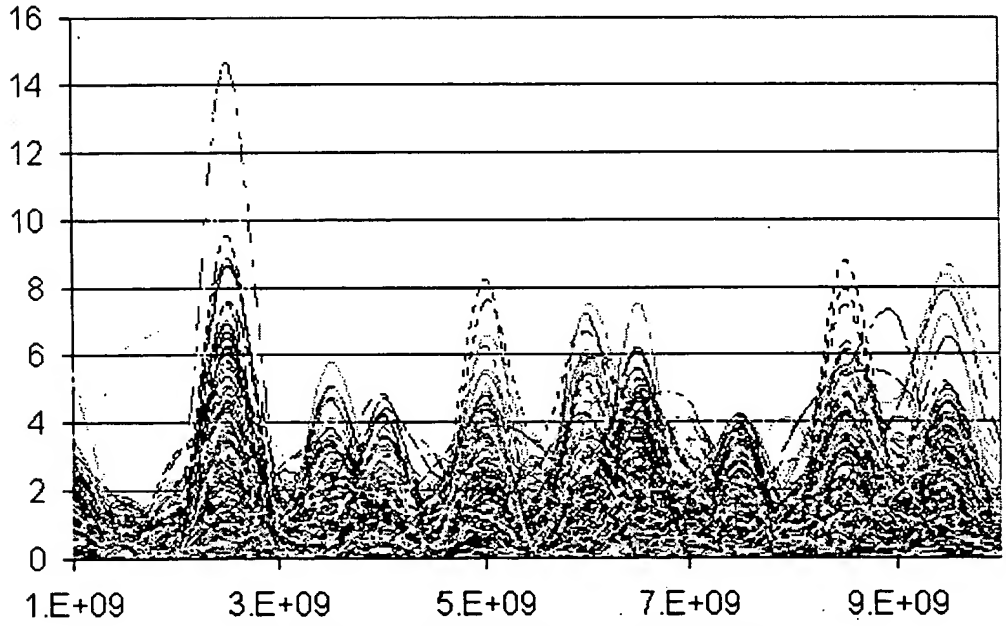
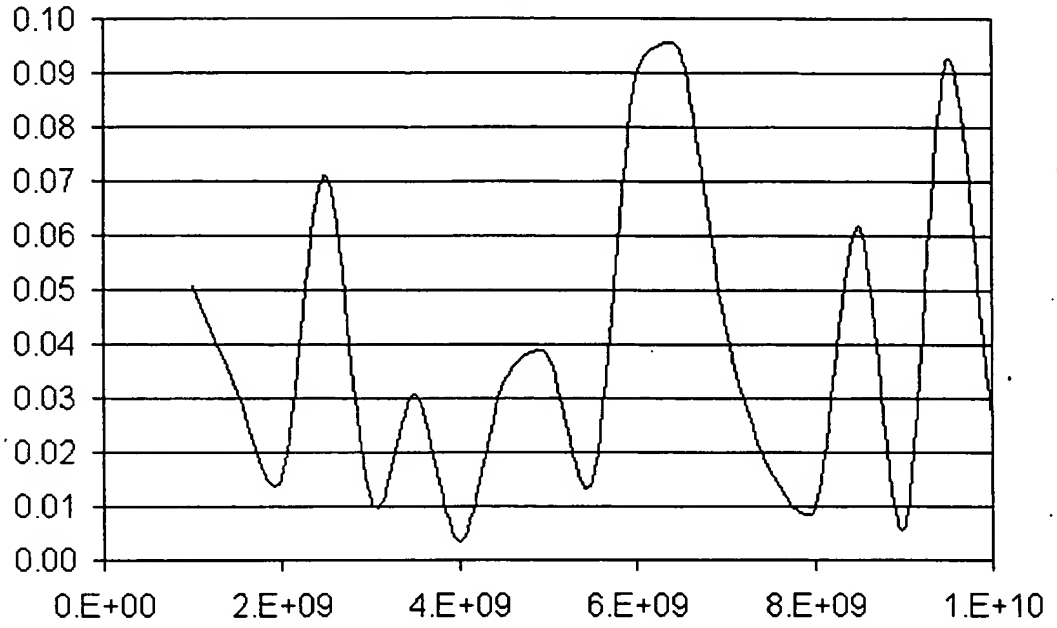
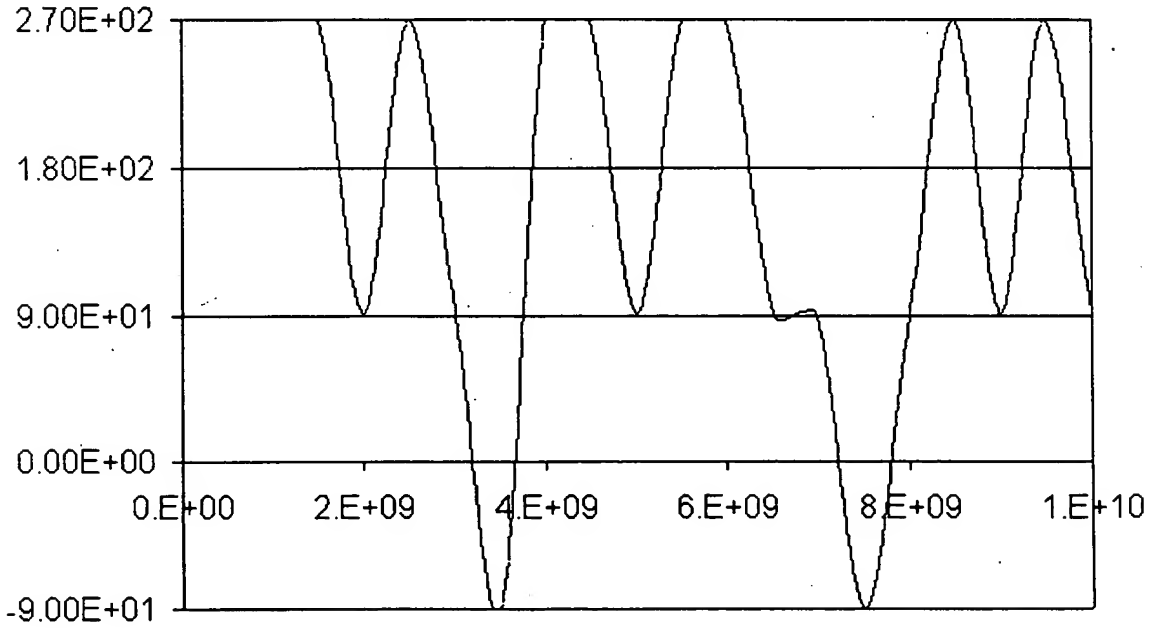


Fig. 6 Simulated response of 12-circle

Antenna Projest

Simulation results of Curvilinear Fractal HTS Micro-Antenna





CECCM 5458

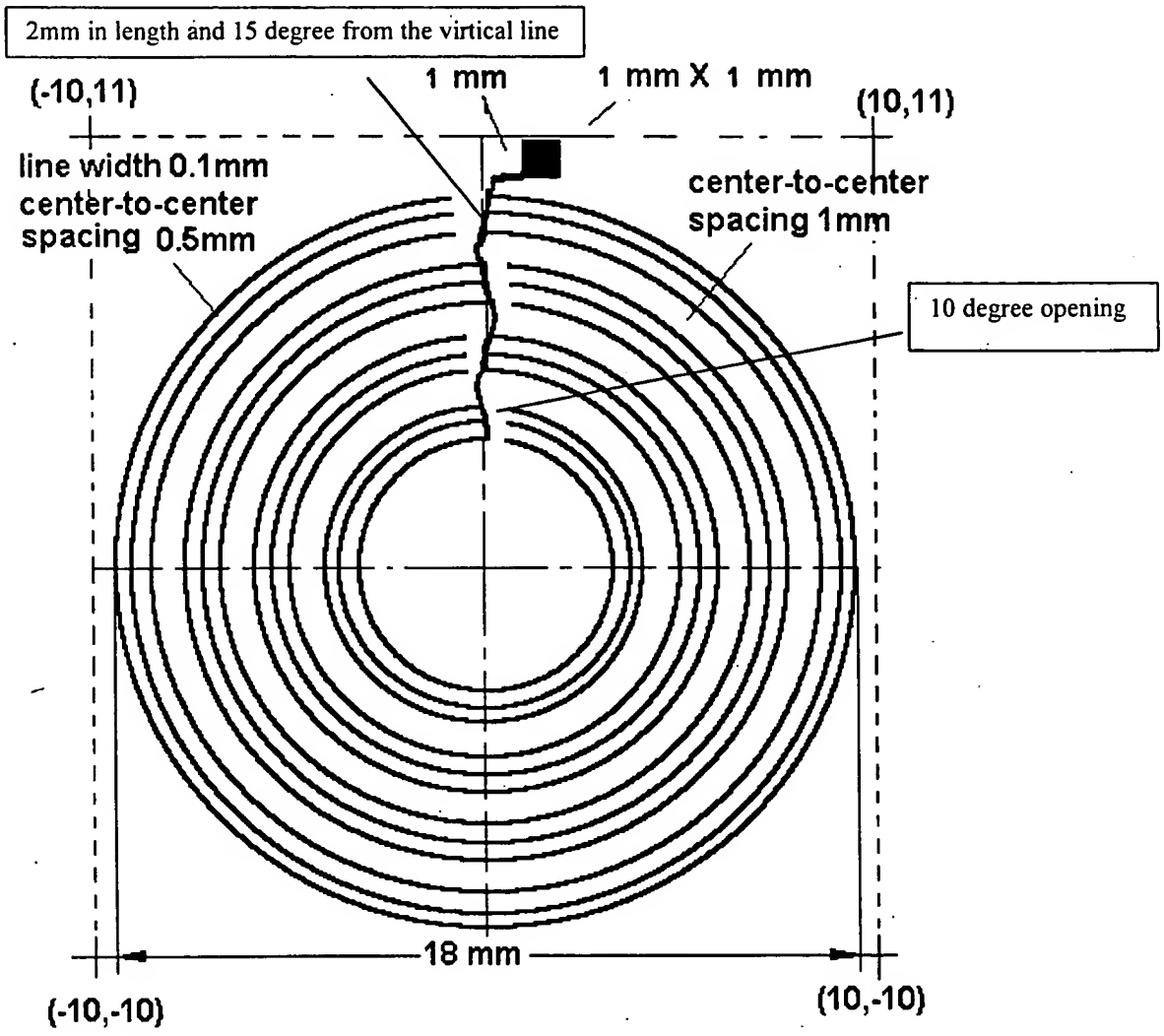


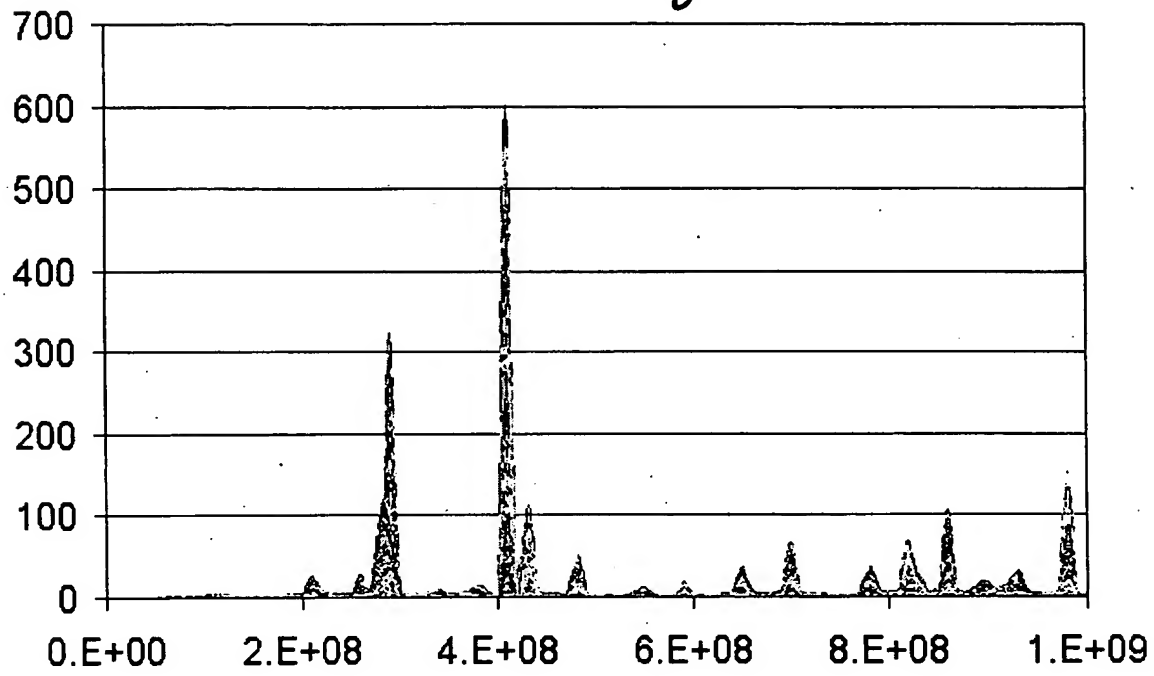
Fig. 3 Structure of 4-group

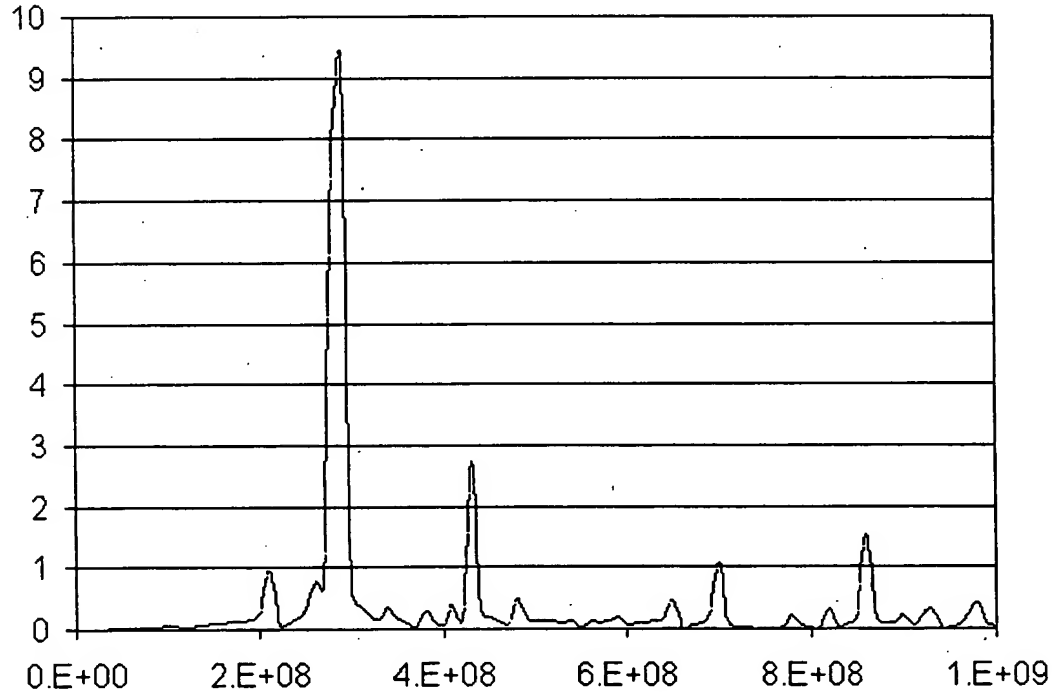
Double-Sided HTS Folded-Log-Periodic Micro-Antenna.

Both sides of a single LAO Substrate have the above configuration patterned on YBCO superconducting Thin-Film

Antenna Projest

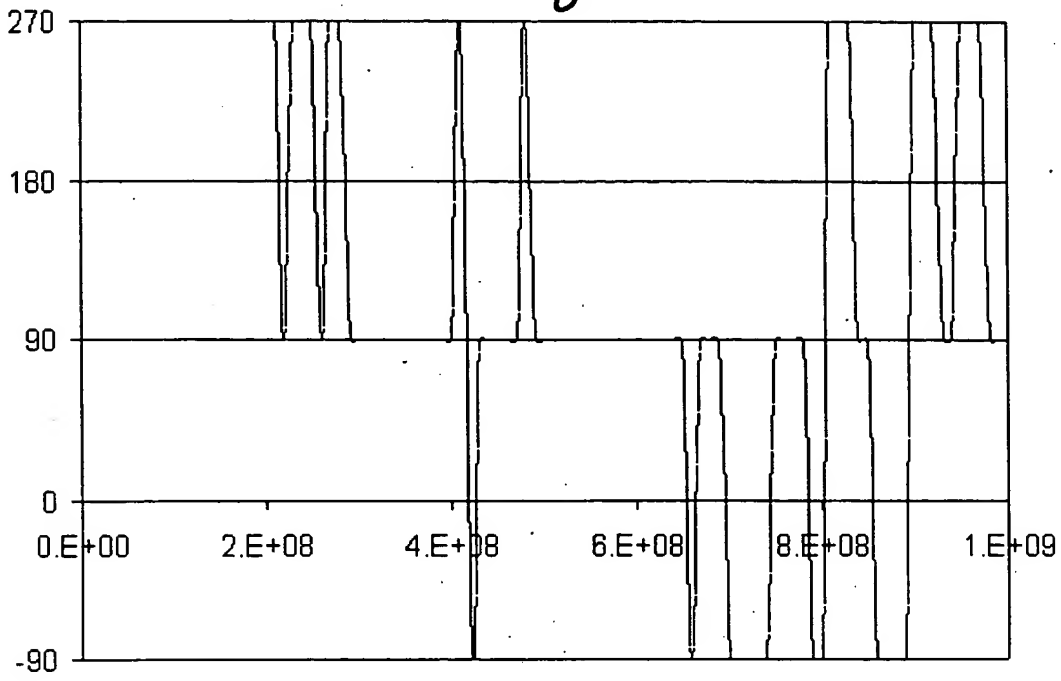
Simulation results of Folded-Log-Periodic





I_{input}-Frequncy

Simulation results of Folded-Log-Periodic Antenna



$I_{input\text{-}phase}$-Frequncy

Fig. 4 Simulated response of 4-group

CECCM 545

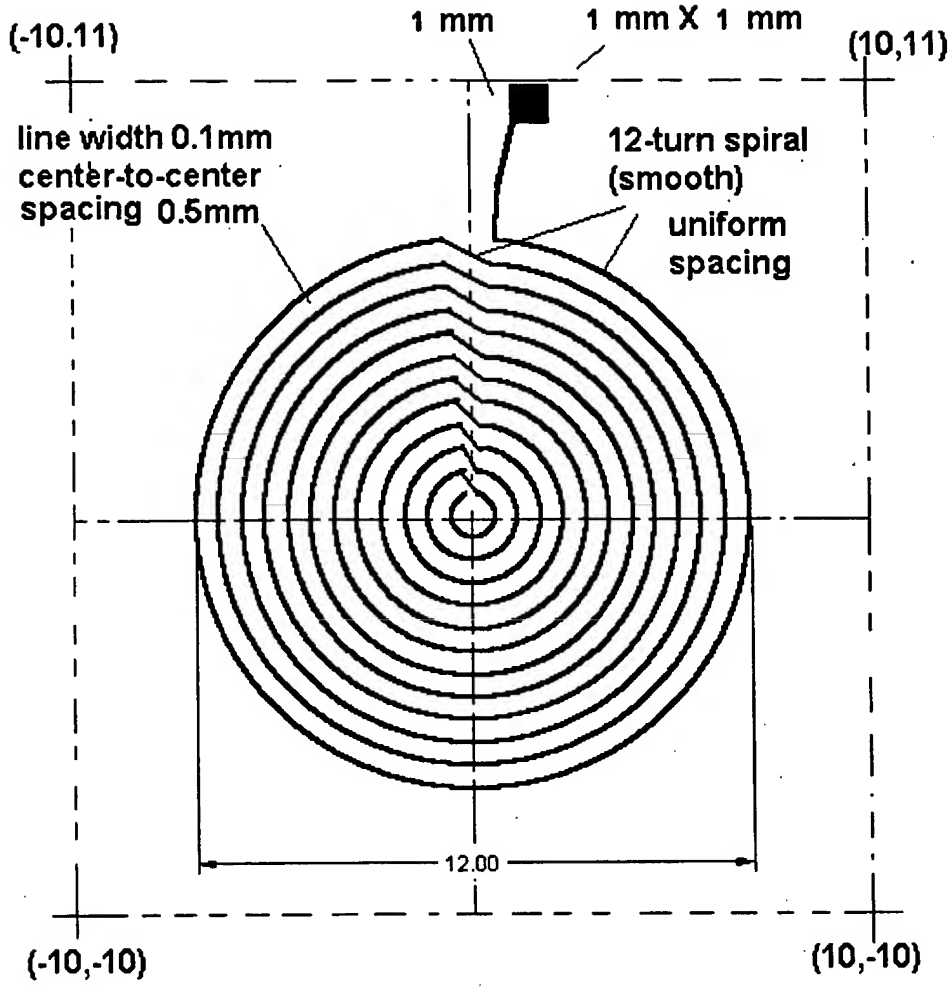


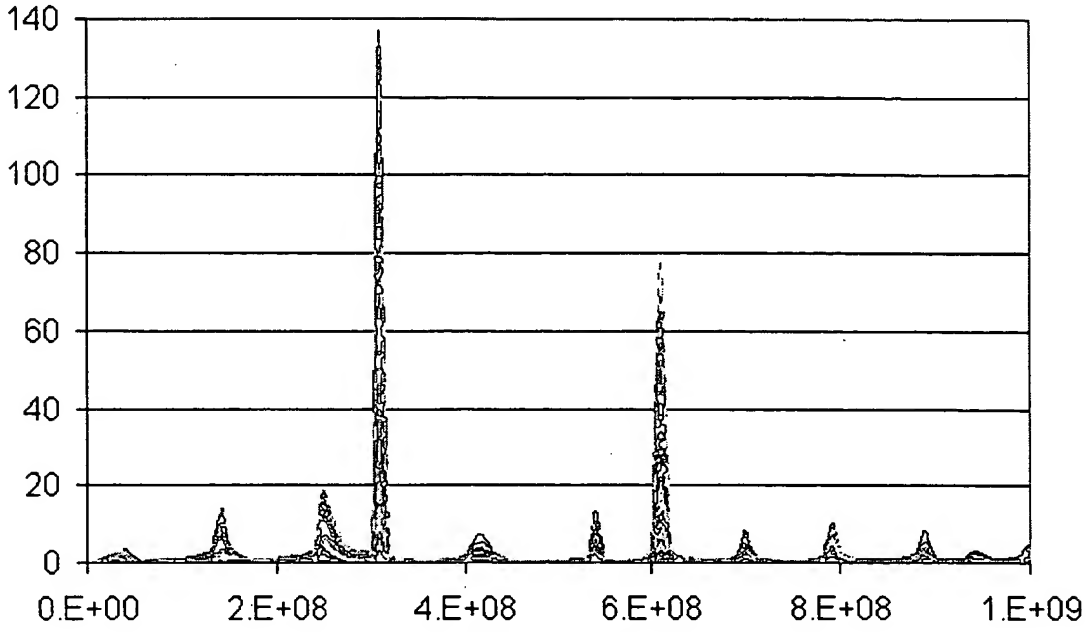
Fig. 1 Structure of 12-turn spiral

Double-Sided HTS SPiral Micro-Antenna

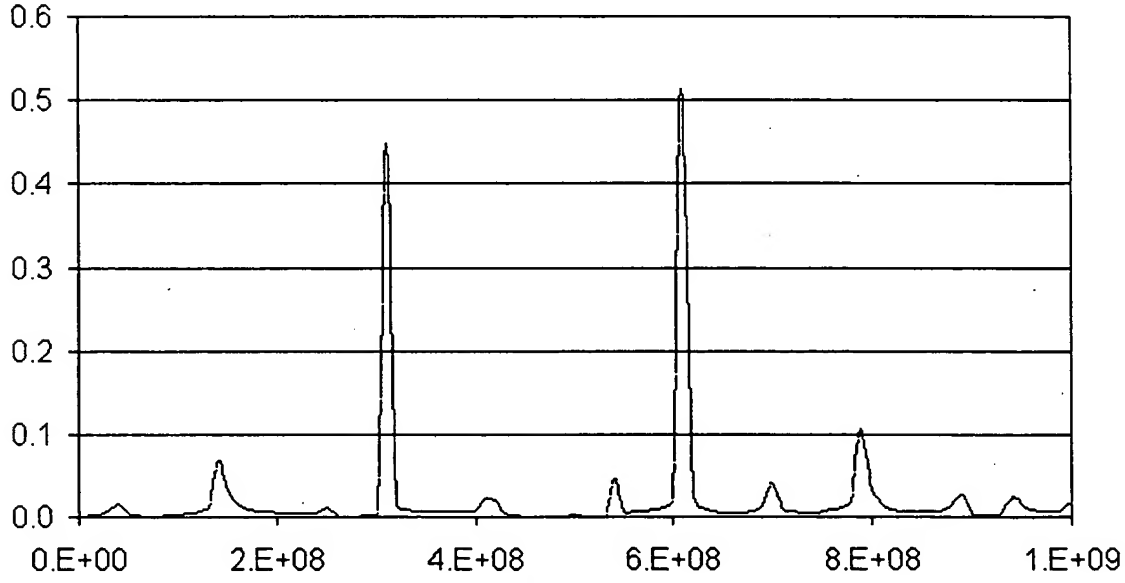
Both Sides of a single LAO substrate have the above Configuration patterned on YBCO (High-T_c Superconductor) Thin-Film

Antenna Projest

The simulation result for spiral Antenna

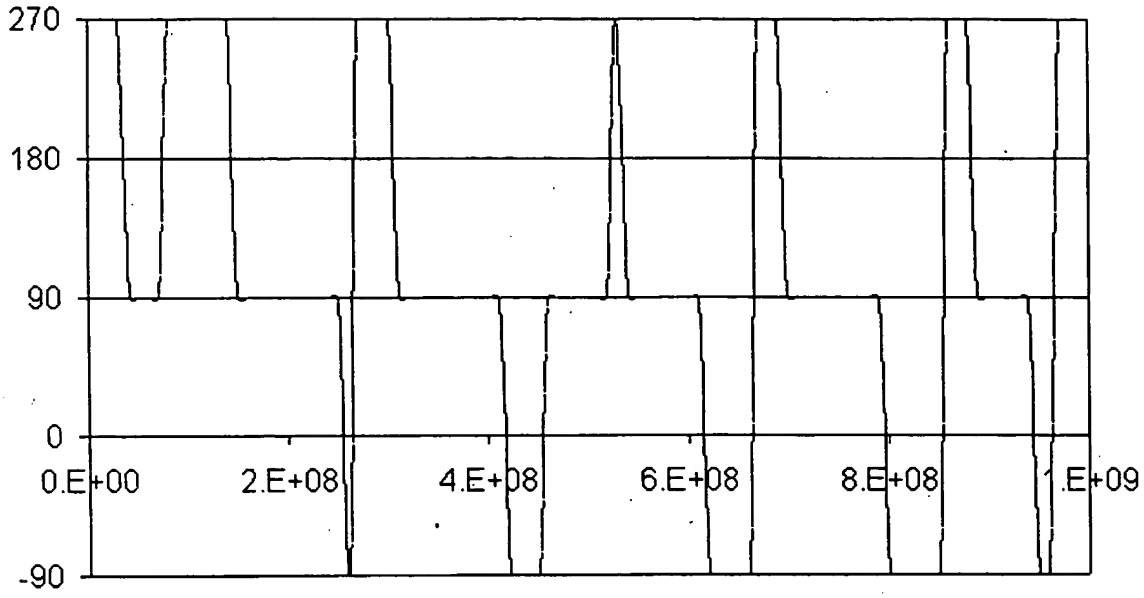


V-Frequency



I_{input}-Frequncy

Simulation result for Spiral Antenna



$I_{input\text{-}phase}$-Frequncy

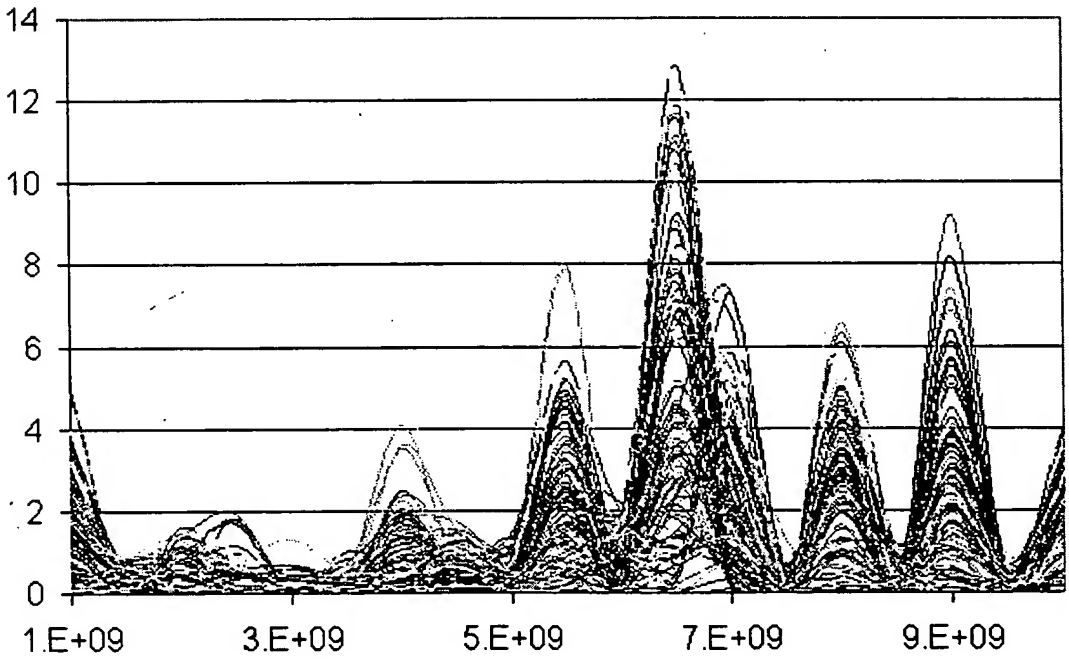


Fig. 2 Simulated response of 12-turn spiral

UNITED STATES
PATENT AND
TRADEMARK OFFICE

Under Secretary of Commerce For Intellectual Property and
Director of the United States Patent and Trademark Office
Washington, DC 20231
www.uspto.gov

JUNE 27, 2002

PTAS

U.S ARMY CECOM
AMSEL-LG-L
GEORGE B. TERESCHUK
FORT MONMOUTH NJ 07703-5010

102073962A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 04/16/2002

REEL/FRAME: 012833/0866
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
SAHBA, SHAPUR

DOC DATE: 06/12/2001

ASSIGNEE:
UNITED STATES OF AMERICA AS
REPRESENTED BY THE SECRETARY OF
THE ARMY, THE
WASHINGTON, NEW JERSEY 20310

SERIAL NUMBER: 09882407
PATENT NUMBER: 6403977

FILING DATE: 06/13/2001
ISSUE DATE: 06/11/2002

THERESA FREDERICK, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

05-01-2002

Form PTO-1595 (Rev. 03/01)
OMB No. 0651-0027 (exp. 5/31/2002)
Tab settings ⇨ ⇨ ⇨

RE

102073962

U.S. DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Shapur Sahba

4/16/02

Additional name(s) of conveying party(ies) attached? ☐ Yes ☑ No

2. Name and address of receiving party(ies)
Name: The United States of America as represented by the Secretary of the Army

Internal Address: _____

Street Address: _____

City: Washington State: NJ Zip: 20310

Additional name(s) & address(es) attached? ☐ Yes ☑ No

OFFICE OF PUBLIC RECORDS
2002 APR 16 AM 10:09
FINANCE SECTION

3. Nature of conveyance:
☑ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

Execution Date: 06/12/2001

4. Application number(s) or patent number(s):
If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s) 09/882,407

B. Patent No.(s) _____

Additional numbers attached? ☐ Yes ☑ No

5. Name and address of party to whom correspondence concerning document should be mailed:
Name: U.S. Army CECOM
Internal Address: ATTN: AMSEL-LG-L

Street Address: _____

City: Fort Monmouth State: NJ Zip: 07703-5010

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....$ 40.00
☐ Enclosed
☑ Authorized to be charged to deposit account

8. Deposit account number:
19-2201

DO NOT USE THIS SPACE

9. Signature.

George B. Tereschuk
Name of Person Signing

Signature

10 April 2002
Date

Total number of pages including cover sheet, attachments, and documents: 2

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

04/30/2002 LMUELLER 00000189 192201 09882407
01 FC:581 40.00 CH

ASSIGNMENT OF INVENTION

For use of this form, see AR 27-60; the proponent agency is OTJAG

Title of Invention: DOUBLE-SIDED HIGH-TEMPERATURE SUPERCONDUCTING FLUX-FLOW TRANSISTOR

Inventor(s) SHAPUR SAHBA

*Application Serial No.: 09/882,407 Docket No.: CECOM 5420

*Date Oath Executed: 12 June 2001 *Filing Date: 13 June 2001

(*Data not known at execution may be added for better identification.)

I (We), the undersigned inventor(s), in consideration of the rights of the Government of the United States acquired by virture of the circumstances under which the above-entitled invention was made, hereby:

1. Assign to the Government of the United States, as represented by the Secretary of the Army, the entire right, title and interest throughout the United States, its Territories, Possessions, and Puerto Rico, in and to the above-entitled invention and application for patent and all Letters Patent issuing thereon, and any continuation, continuation-in-part or division of said application and any reissue or extension of said Letters Patent.

2. Agree to assign to the Government upon its request, title and interest in the invention in those foreign countries in which the Government, within eight months of the filing of the United States application for patent, determines to cause an application to be filed; provided that if the Government determines not to cause an application to be filed in any particular foreign country or fails to make such a determination, within the said eight months, all right, title and interest in the invention in such foreign country shall remain in me (us), subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent which may issue on the invention in such foreign country, including the power to issue sublicenses for use in behalf of the Government and/or furtherance of the foreign policies of the Government.

3. Agree to provide any further information within my (our) knowledge and to execute any further documents necessary to the prosecution of patent applications on the invention, the prosecution and settlement of interferences and recording of title to patent applications and patents issuing thereon.

Signature of Inventor: _____
(First name) (Middle Initial) (Last name)

Duty Address: U.S. Army Communications-Electronics Command, RDEC, I2WD, Fort Monmouth, Monmouth County, New Jersey 07703-5010
(Locality) (County) (State)

Date: June 12, 2001 Typed Name of Inventor: SHAPUR SAHBA

* * * * * * * * * * * * * * * * * * *

State of: NEW JERSEY)
) SS
County of: MONMOUTH)

On the above date SHAPUR SAHBA known to me to be the individual described in and who executed the foregoing instrument duly appeared before me and acknowledged to me that the same as his own free act and deed.

(SEAL)

_____
(Signature of notary public)

My Commission expires on URSULA BUKI Notary Public of New Jersey My Commission Expires May 16, 2005

Tereschuk, Georg B CECOM LEGAL

To: Buki, Ursula CECOM LEGAL
Subject: FW: Docket # 5420, and 5459

Ursula, please update the phone numbers for Shapur Sahba who has left government service and was asking me about the status of his 2 applications. Thank you, George.

-----Original Message-----
From: Tereschuk, George B CECOM LEGAL
Sent: Monday, August 19, 2002 2:51 PM
To: 'sonorordcorp@att.net'
Subject: RE: Docket # 5420, and 5459

Shapur, very nice to hear from you. CECOM Docket No. 5240 resulted in Patent No. 6,403,977 being granted on June 11, 2002. Congratulations. I haven't started the other one yet due to intervening priorities but expect to do so in October or November. Thanks for the information about the antenna. Once I start the other one, I'll contact you if I have any questions.

Good luck to you and your new company. George.

-----Original Message-----
From: sonorordcorp@att.net [mailto:sonorordcorp@att.net]
Sent: Monday, August 19, 2002 12:15 PM
To: george.tereschuk@mail1.monmouth.army.mil
Subject: Docket # 5420, and 5459

Good Morning Mr. Tereschuk;
As of early January of 2002, I am no longer with CECOM, and have established a very small R&D corporation in New Jersey. Our main market are the SBIR projects with the U.S. GOV'T. I am writing this letter, inquiring the status of my two patent applications during my employment with the CECOM. One patent application was for: Double-Sided High-Temperature Superconducting Flux-Flow Transistor (CECOM docket # 5420), and the other: Double-Sided High-Temperature Superconducting Antenna (I believe the CECOM docket # 5459, if not mistaking). As you may recognize, now that I am involved with my own business, it is evermore important to have access to the related information, and be able to refer to my documented work at CECOM. In addition, a few weeks ago I read a published paper by a foreign university research group that has done some similar work on the superconductive electronics. Specially the antenna structures that I initiated, worked on, and personally fabricated, starting the year 1996, is extremely important to be recognized. Therefore, any information in regards with my applications are greatly appreciated. Also since you may need additional information in the antennae, I will be more than happy to provide you the theoretical information/background as necessary. I have left all of the actual antennae with my colleague, Dr. Ernest Potenziani, currently at I2WD. If needed, he can provide you with the structures. Again I appreciate any information you can provide that are extremely important for me.

--
Regards, Shapur Sahba, Ph.D.
Principal Scientist
Sonoro R&D Corporation
e-mail: SONORORDCORP@ATT.NET

tel: 732-897-0940
fax: 732-897-0774

Tereschuk, George B CECOM LEGAL

To: sonorordcorp@att.net
Subject: RE: HTS ANTENNA PATENT

Shapur, here's my fax number for you to send me the radiation pattern material: 732-389-3396. Also, please let me know if this paper (or anything similar) was published in Japan or elesewhere, and the date(s) of publication.
Thanks, George.

-----Original Message-----
From: sonorordcorp@att.net [mailto:sonorordcorp@att.net]
Sent: Tuesday, November 26, 2002 6:02 AM
To: Tereschuk, George B CECOM LEGAL
Subject: RE: HTS ANTENNA PATENT

Thanks again,that is all I needed.

--
Regards, Shapur Sahba, Ph.D.
Principal Investigator
Sonoro R&D Corporation
P.O. Box 1684
Wall, NJ 07719-1684
e-mail: SONORORDCORP@ATT.NET
tel: 732-897-0940
fax: 732-897-0774

disconnected

> Shapur, good timing, your case is the next one I was planning to
> start, thanks, George.
>
> -----Original Message-----
> From: sonorordcorp@att.net [mailto:sonorordcorp@att.net]
> Sent: Monday, November 25, 2002 6:50 AM
> To: george.tereschuk@mail1.monmouth.army.mil
> Subject: HTS ANTENNA PATENT
>
>
> Good Morning George;
> As I have promised, I am attaching the final design, fabrication, and
> characterization of my in-house research/development project (Double-Sided
> HTS
> Micro Antennae) that I conducted
> on behalf of the CECOM-RDEC during my employment with the US Army, Ft.
> Monmouth. The following are the most detailed experimental and theoretical
> processes and procedures I conducted to have a very successful ILIR project.
>
> If
> I am not mistaking, you notified me that during the period of the
> mid-October
> to mid-November of 2002 you will be involved in preparing the patent
> application for my project. I believe that all of the necessary information
> shall be summarized in the attached file. And I also believe that my
> insistence in forwarding this patent application shall prove
> my deep and strong belief in the scientific merit, and technological
> advancement that such device (Double-Sided HTS Micro-Antenna structure)can
> bring to both military and civilian dual use applications. I hope my effort
> will not go un-noticed. Therefore I am requesting your assistance in filing
> the patent application on behalf of CECOM-RDEC, and my efforts will finally
> be
> recognized. However, If you think my invention will have no value added to
> the scientific community, please advise me. In any case I appreciate your
> considerations. Please do not hesitate to contact me for more information
> and
> clarification. Finally, the portion about the radiation pattern needs be

> fax-
> ed, and cannot be attached in any word formatted file, and I will be more
> than
> glad to fax them to you upon request.
>
> November 24, 2002
>
>
> --
> Regards, Shapur Sahba, Ph.D.
> Principal Investigator
> Sonoro R&D Corporation
> P.O. Box 1684
> Wall, NJ 07719-1684
> e-mail: SONORORDCORP@ATT.NET
> tel: 732-897-0940
> fax: 732-897-0774

Tereschuk, Georg B CECOM LEGAL

To: sonorordcorp@att.net; qiuting.yang@us.army.mil
Subject: RE: HTS Micro-Antenna Patterns

Shapur, that's terrific. I should be in next Monday, and If I'm at a meeting she can leave the patterns with one of the secretaries.

After I get that, I'd like to schedule a time to speak with you either the beginning of the week of December 30 or the first full week in January because I have a number of questions that need answers. Please give me a few times when you can call me during that time period and I'll get back with you.

Thanks, George.

-----Original Message-----
From: sonorordcorp@att.net [mailto:sonorordcorp@att.net]
Sent: Wednesday, December 18, 2002 2:12 PM
To: qiuting.yang@us.army.mil; george.tereschuk@us.army.mil
Subject: HTS Micro-Antenna Patterns

Good Afternoon George;
Finally I put together a few pages of actual HTS Micro-Antenna Radiation Patterns together (actual data of less than 10 pages). I have asked Ms. Yang from CECOM to do me a big favor of dropping them to your office on the afternoon of this coming Monday (12-23-2002). I understand because of holidays you, and even colleagues may not be physically available. In that case, if it is OK with you, she will leave them with somebody at your office. Otherwise I would appreciate any advice.
Again I really do appreciate, and hope this new patent will add to our HTS technology, which we hold a world-wide lead.

--
Regards, Shapur Sahba, Ph.D.
Principal Investigator
Sonoro R&D Corporation
P.O. Box 1684
Wall, NJ 07719-1684
e-mail: SONORORDCORP@ATT.NET
tel: 732-897-0940
fax: 732-897-0774

To: Mr. GEORGE TERESCHUCH
Legal Office
U.S. Army, CECOM-RDEC
Fort Monmouth, NJ 07703

RE: Patent Application for "Double-Sided HTS Antennae"

Dear George:

I am attaching two of the damaged samples to this sheet just to demonstrate the antenna structures. One broken sample is the Double-Sided Spiral, and the other broken (and put together piece) is an actually Double-Sided Fractal. I am sending these just to show you what they looked like, and how small they were.

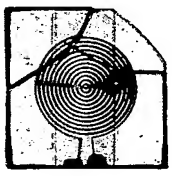
Most of the attached radiation patterns are directly printed off of the network analyzer, and the letter-heads read "double-sided Folded Log Periodic," tested at 77 Kelvin, below the critical-temperature (for this material was about 92 K). And none of the patterns belong to the Fractal version.

However, all the patterns were very similar in functionality, radiation patterns and other characteristics. They all had resonances (original application during the filing time was attached to the return loss characteristics, you may still have them, if not I may provide them again). These similarities are because all the devices are magnetic-dipoles, and are comparable in size. I mentioned the relations in my recently forwarded paper.

I am hoping when we meet in person as you mentioned, or even on the phone if necessary, I will be able to help and explain more.

As always, I appreciate your time and effort in helping researchers like us show our contributions and efforts.

Regards, Shapur Sahba, Ph.D.
Sonoro R&D Corp.
P.O. Box 1684, Wall, NJ 07719



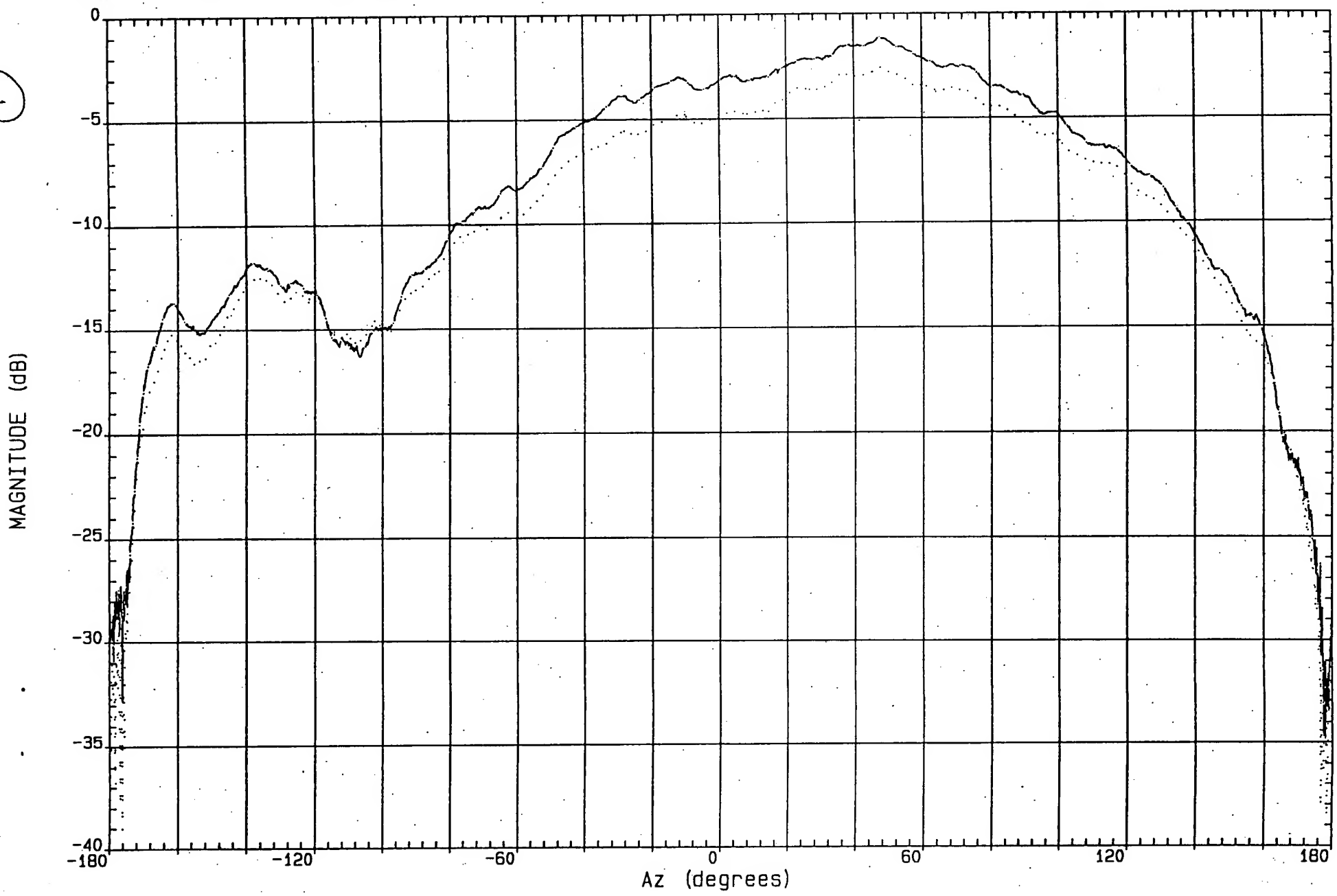
SPIRAL **FRACTAL**

0.5" LN_2 above device. +5 dBm

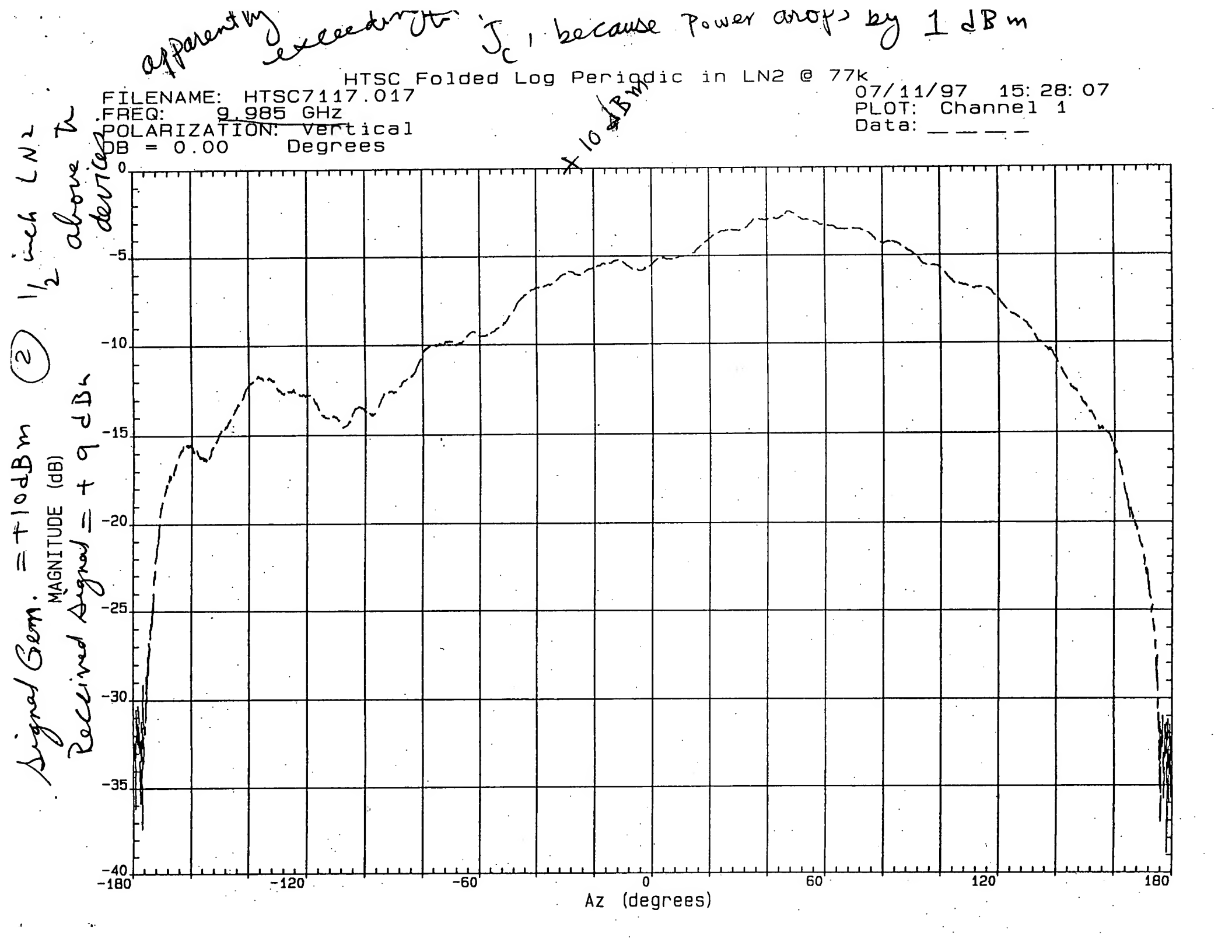
HTSC Folded Log Periodic in LN2 @ 77k

FILENAME: HTSC7117.018, 019
FREQ: 9.985 GHz, 9.98
POLARIZATION: Vertical
DB = 0.00 Degrees

07/11/97 15:33:46
PLOT: Channel 1
Data:



apparently exceeding J_c, because Power drops by 1 dBm

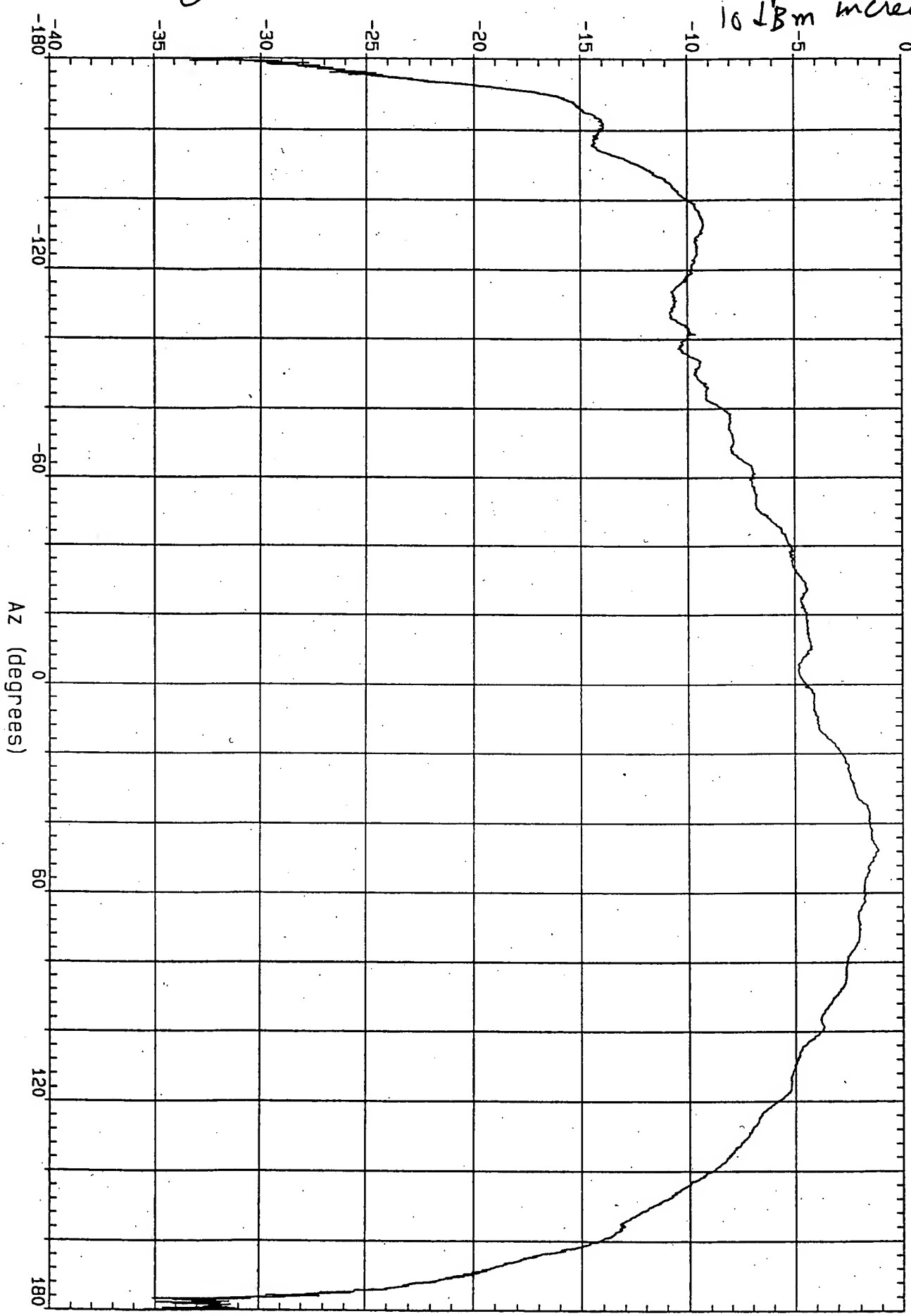


Signal Gen. = +10dBm (2) 1/2 inch LN2 above device

Received Signal = +9 dBm

(3)

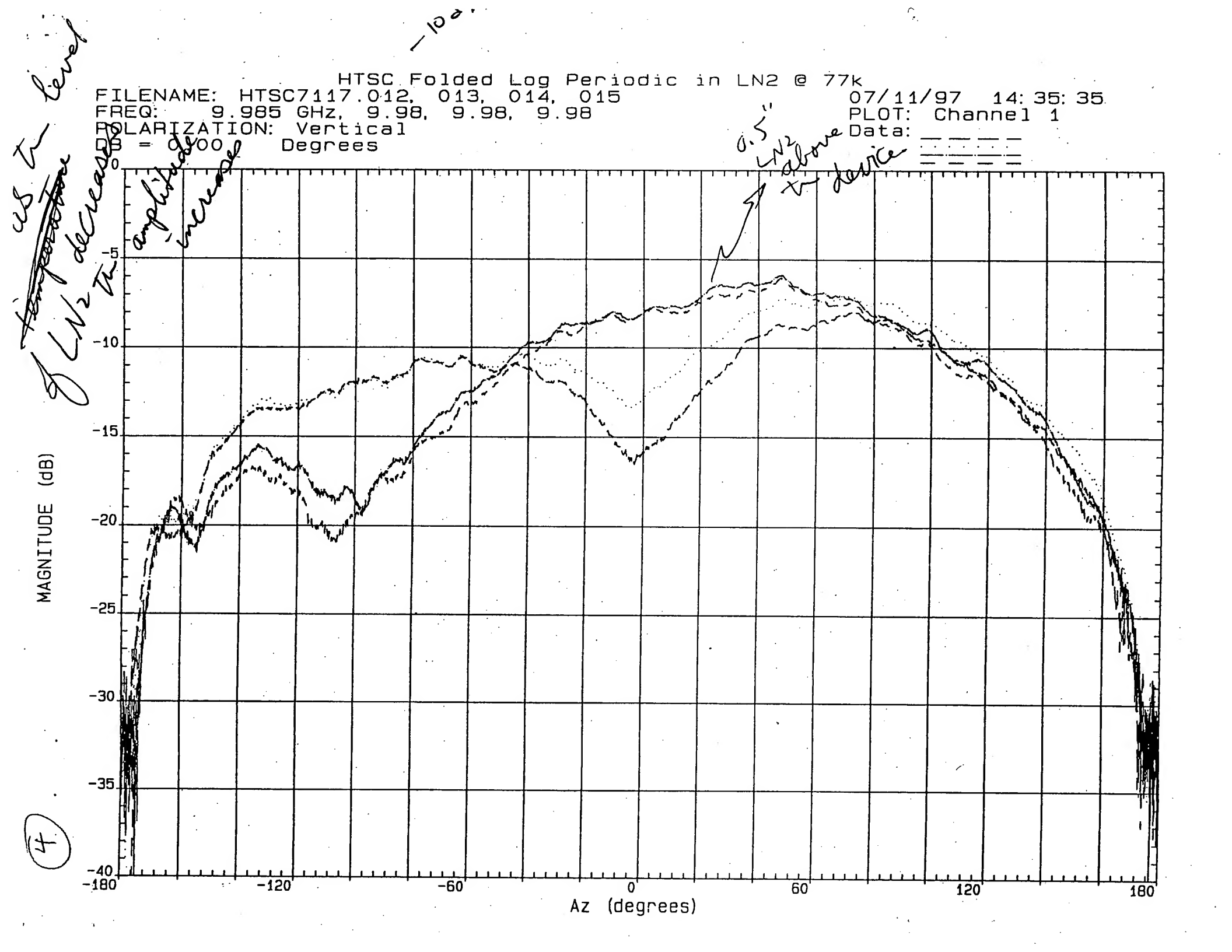
agrees with 10 dBm change with respect with 10 dBm increase of pow



FILENAME: HTSC7117.016
FREQ: 9.985 GHz
POLARIZATION: Vertical
DB = 0.00 Degrees

HTSC Folded Log Periodic in LN2 @ 77k
07/11/97 15:20:07
PLOT: Channel 1
Data: ____

0.0 dBm


HTSC Folded Log Periodic in LN2 @ 77k
FILENAME: HTSC7117.012, 013, 014, 015
FREQ: 9.985 GHz, 9.98, 9.98, 9.98
POLARIZATION: Vertical
DB = 0.00 Degrees
07/11/97 14:35:35
PLOT: Channel 1
Data:
MAGNITUDE (dB)
Az (degrees)
0
-5
-10
-15
-20
-25
-30
-35
-40
-180
-120
-60
0
60
120
180

at t_1

SPIRAL

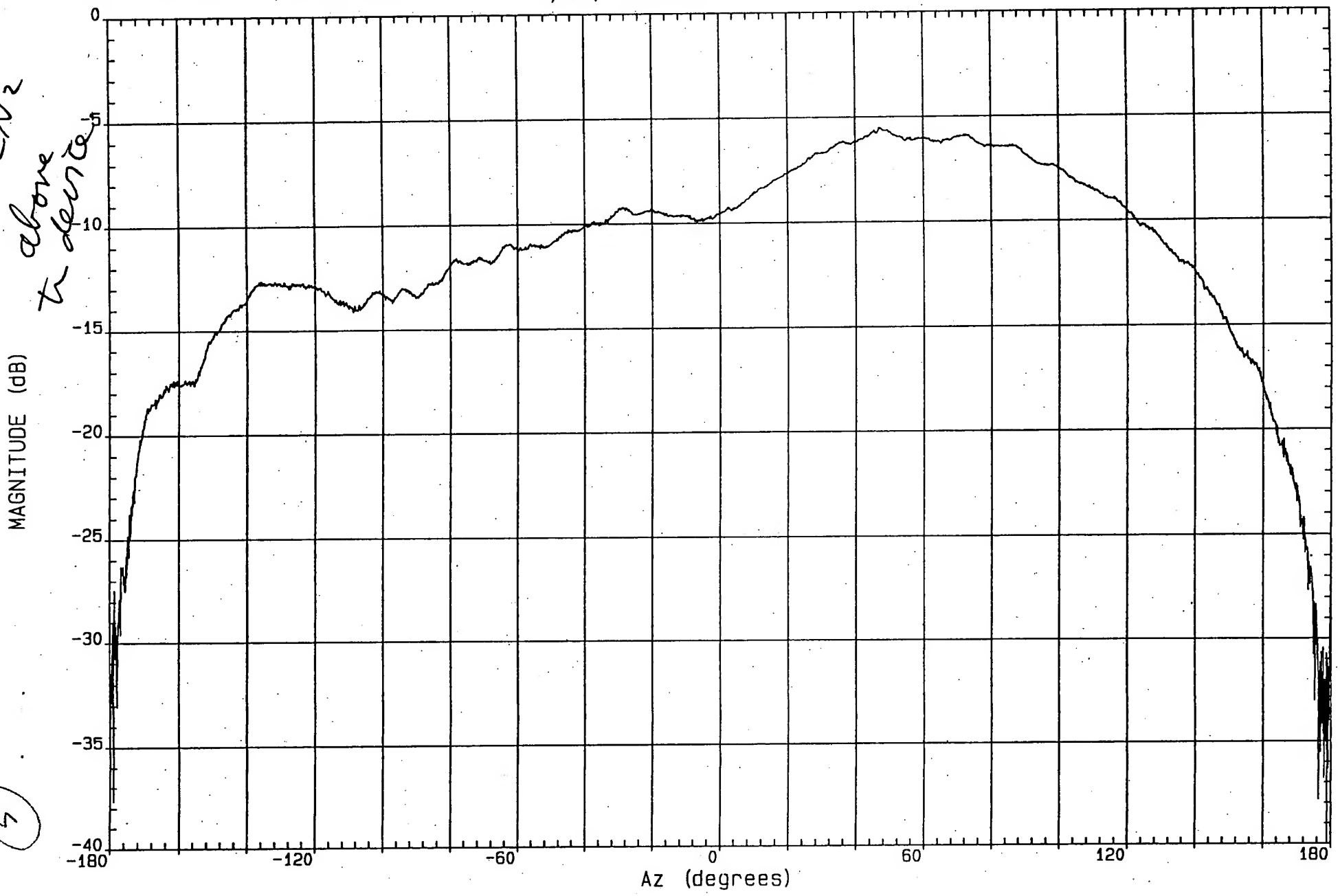
HTSC Folded Log Periodic in LN2 @ 77k

FILENAME: HTSC7117.010
FREQ: 9.985 GHz
POLARIZATION: Vertical
DB = 0.00 Degrees

Receiver Max Sensitivity
Equal Source Mode

07/11/97 14:29:02
PLOT: Channel 1
Data: ———

0.5" LN2 above device



(5)

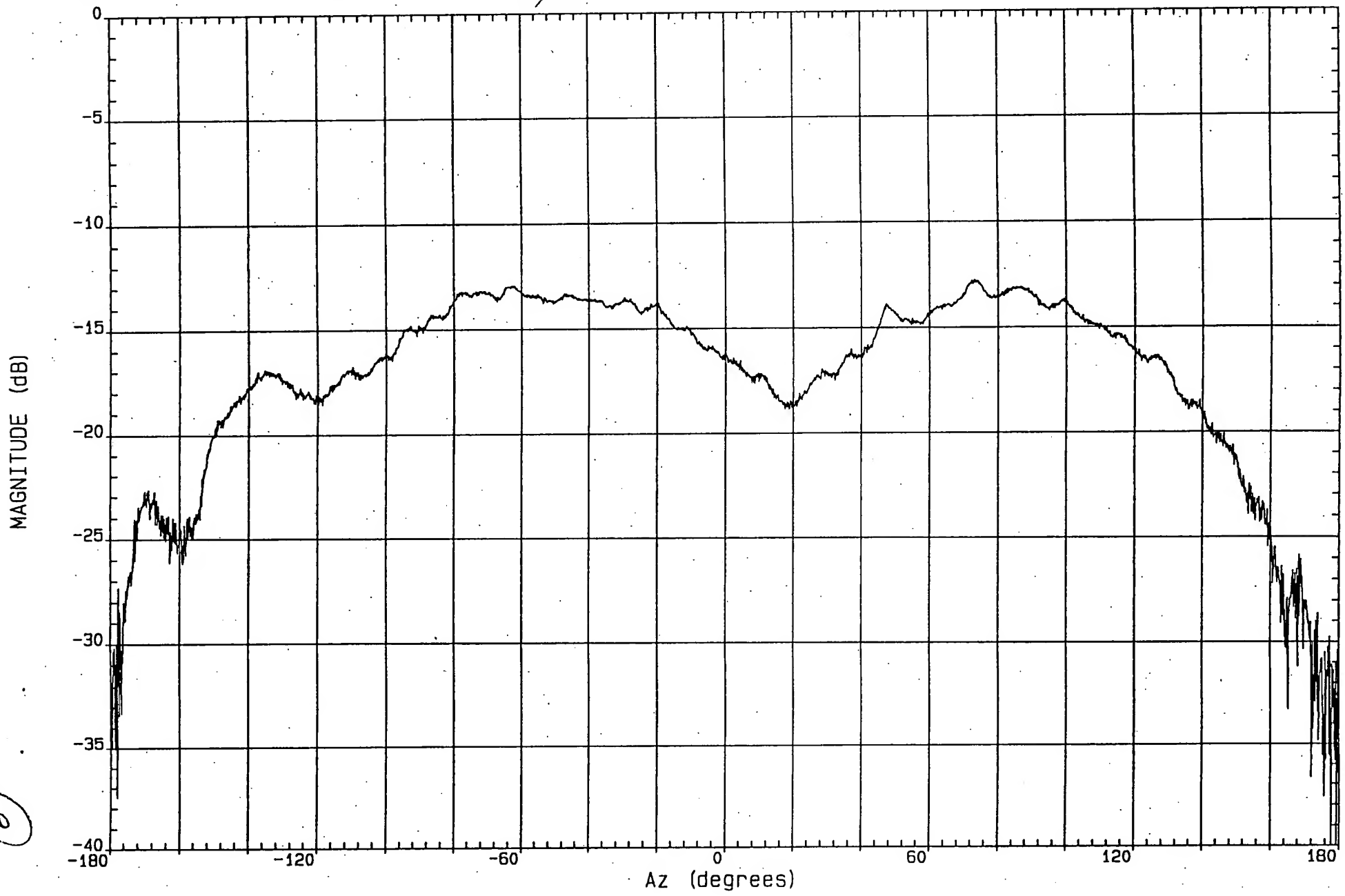
at t2 7k1 Later LN2 spiral (warming-up)

HTSC Folded Log Periodic in LN2 @ 77k

FILENAME: HTSC7117.011
FREQ: 9.985 GHz
POLARIZATION: Vertical
DB = 0.00 Degrees

Receiver Max Sensitivity
Signal Source - Offset

07/11/97 14:33:56
PLOT: Channel 1
Data: ———



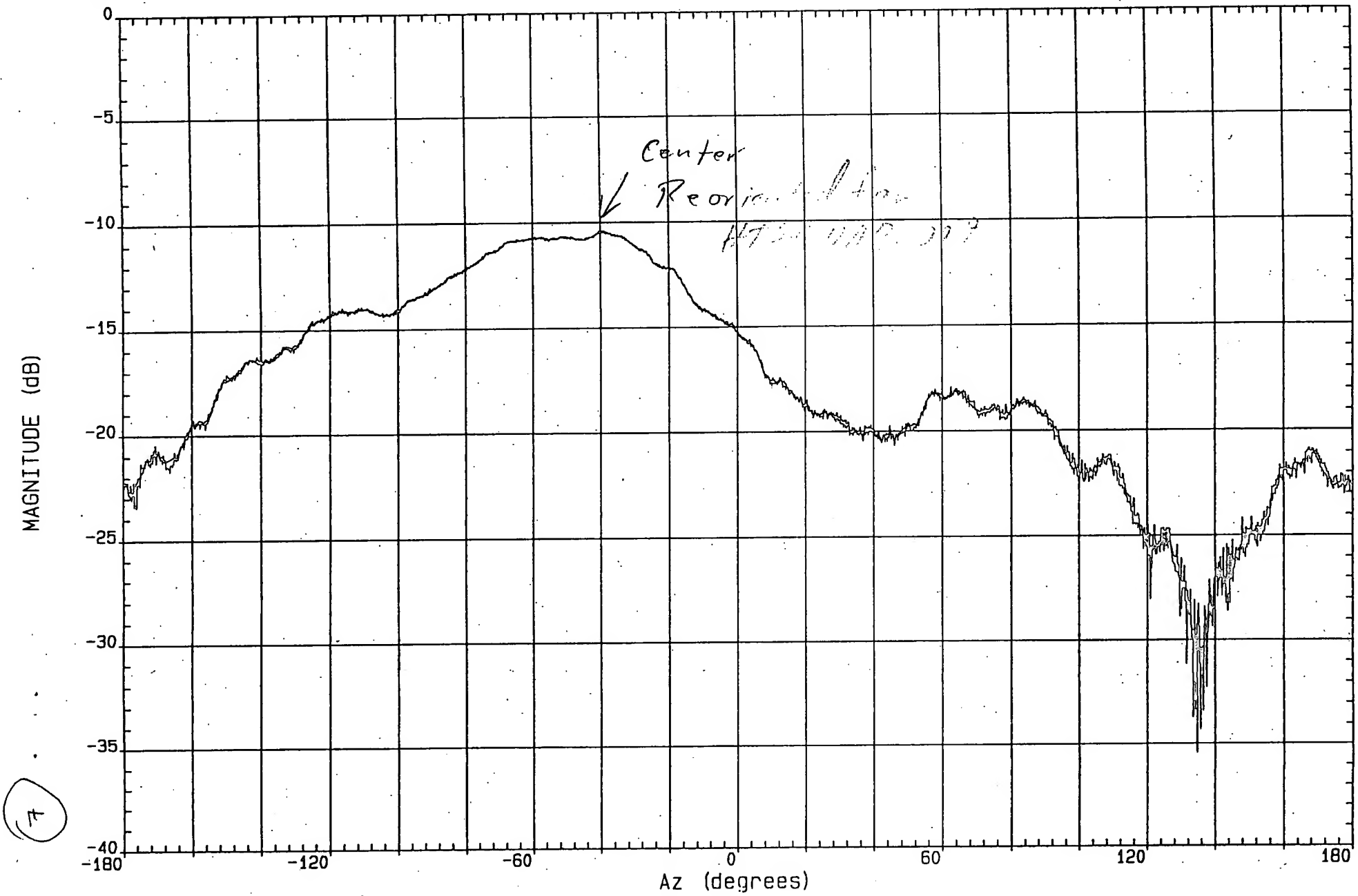
9

HTSC Folded Logperiodic Room Ambient

FILENAME: HTSC7117.008
FREQ: 9.985 GHz
POLARIZATION: Vertical
DB = 0.00 .Degrees

All Maximum −16 dBm.

07/11/97 14:03:45
PLOT: Channel 1
Data: ——



7

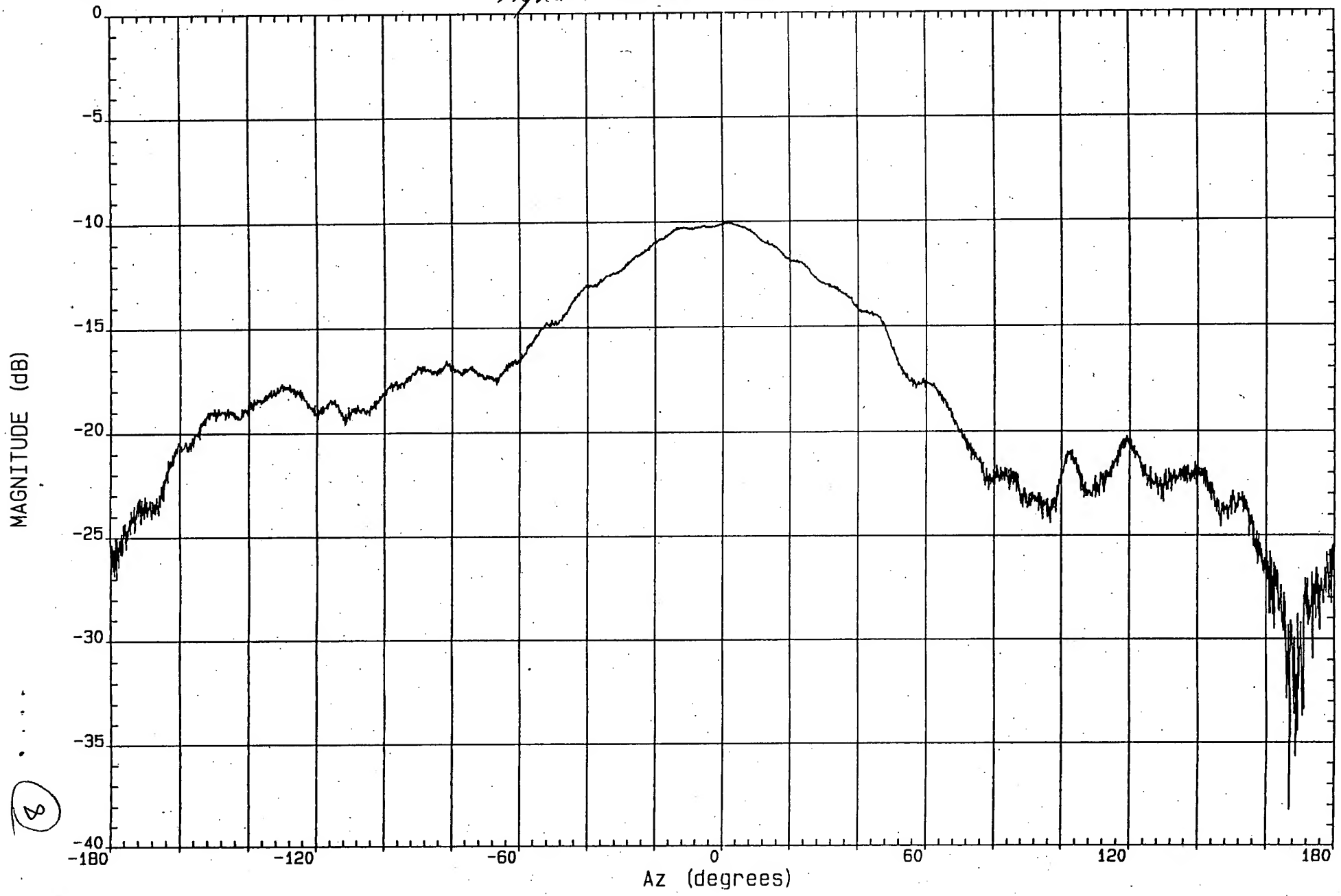
R.1

HTSC Folded Logperiodic Room Ambient

FILENAME: HTSC7117.009
FREQ: 9.985 GHz
POLARIZATION: Vertical
DB = 0.00 Degrees

All Maximum
Signal Source Tot...

07/11/97 14:08:50
PLOT: Channel 1
Data: ———



8

Communications-Electronics Command
Legal Office
Fort Monmouth, New Jersey 07703
Facsimile Transmittal Header Sheet
Fax: COML (732) 389-3396

TO: Dr Shapur Sahba @FAX#: 732-897-0774
Sarnoff RE Corp

FROM: George B. Tereschuk, Esq

DATE: 5/20/03 TIME: ~~11:00~~ ~~3:00~~ 7:37

TOTAL PAGES (including header) 8

COMMENTS: RE: Cream Docket # 5458
Shapur, please review these drawings along with draft patent application that I will send to you by e-mail.

Thanks

George

CONFIDENTIALITY NOTICE

THIS FACSIMILE AND/OR DOCUMENT(S) ACCOMPANYING IT MAY CONTAIN CONFIDENTIAL INFORMATION BELONGING TO THE SENDER WHICH IS PROTECTED BY THE ATTORNEY-CLIENT PRIVILEGE OR MAY CONSTITUTE ATTORNEY WORK PRODUCT IN PREPARATION FOR LITIGATION. THE INFORMATION IS INTENDED ONLY FOR THE USE OF THE OFFICE OR THE INDIVIDUAL NAMED ABOVE. IF YOU ARE NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISCLOSURE, COPYING, DISTRIBUTION OR THE TAKING OF ANY ACTION IN RELIANCE ON THE CONTENTS OF THIS INFORMATION IS PROHIBITED. IF YOU HAVE RECEIVED THIS TRANSMISSION IN ERROR, PLEASE NOTIFY THIS OFFICE IMMEDIATELY BY TELEPHONE TO ARRANGE FOR THE RETURN OF THE DOCUMENT(S).

FIG. 1

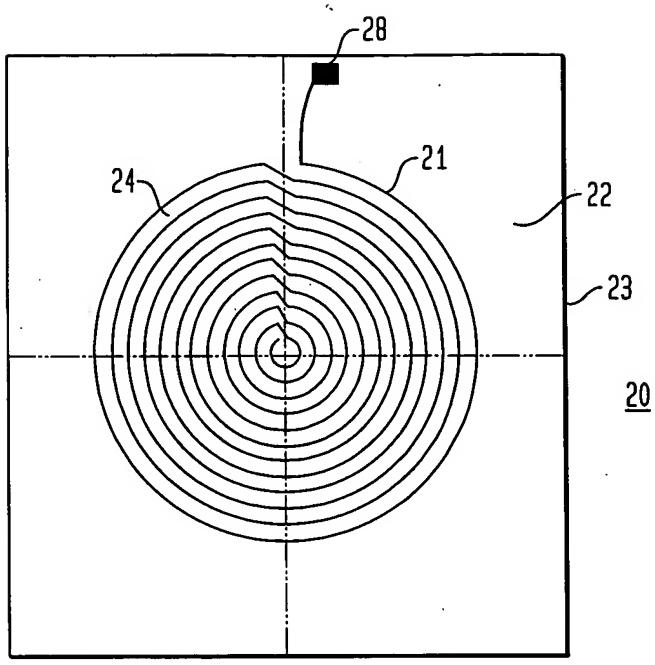


FIG. 2

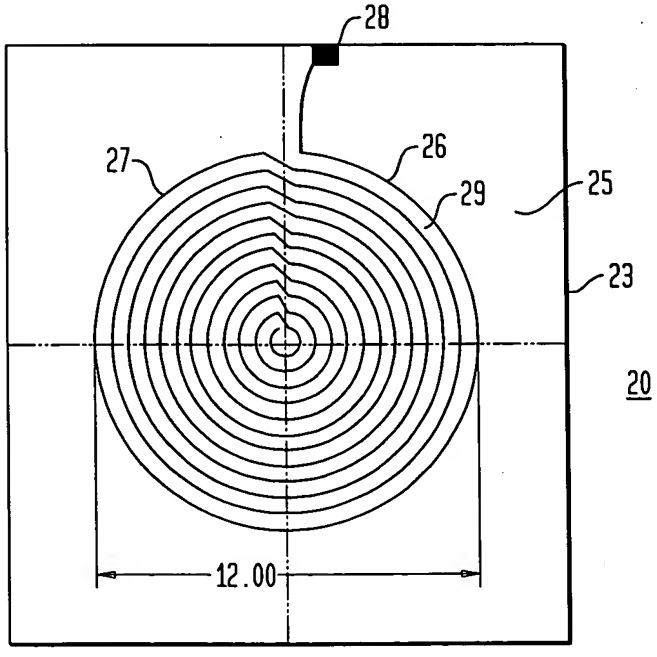


FIG. 3

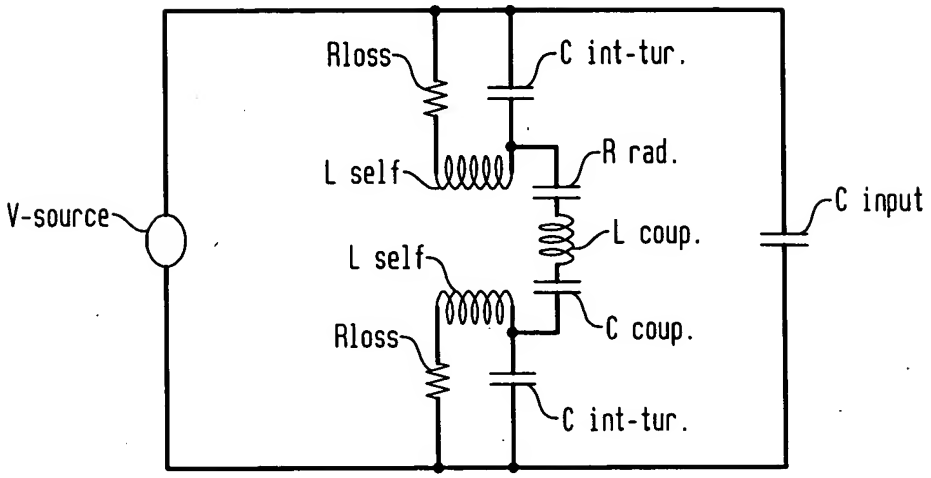


FIG. 4

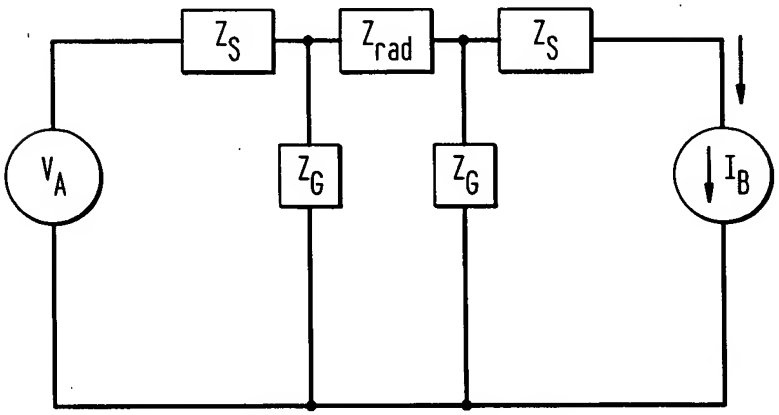


FIG. 5

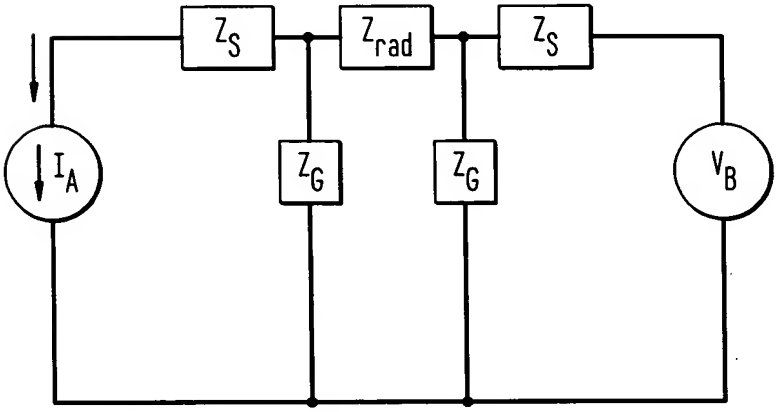


FIG. 6A

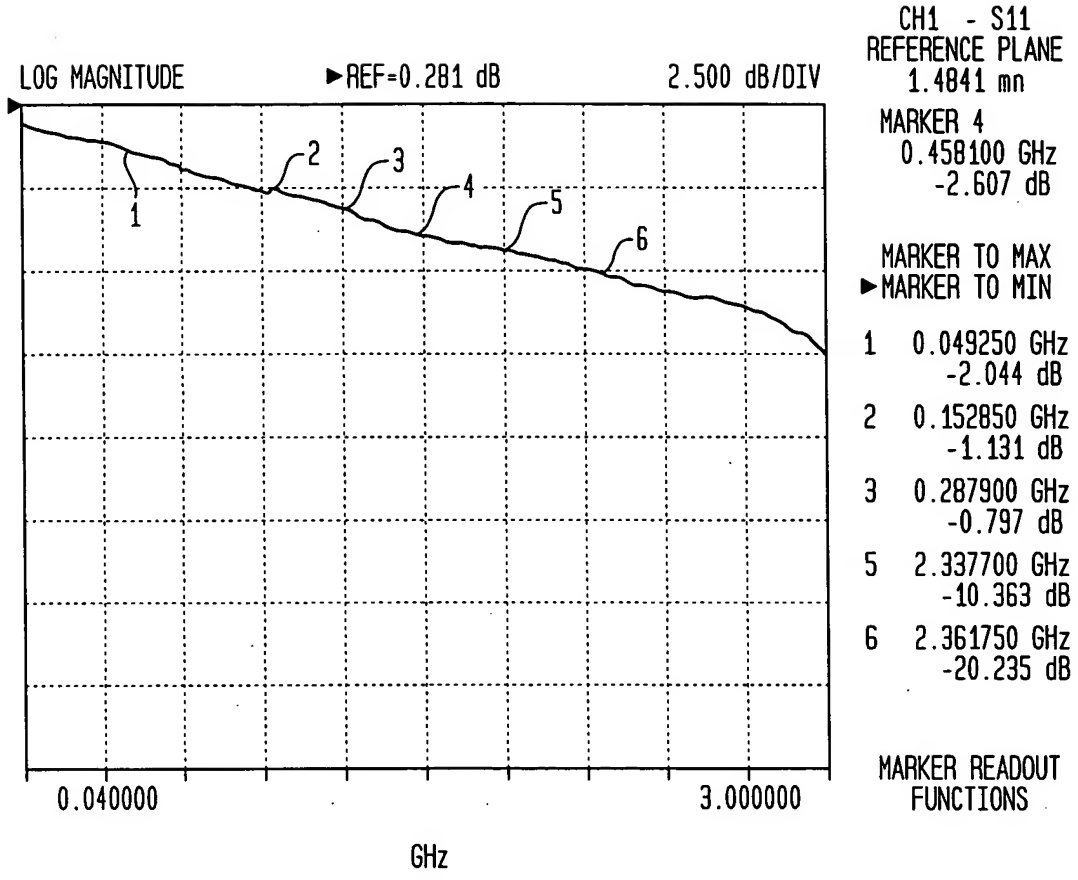

LOG MAGNITUDE
▶REF=0.281 dB
2.500 dB/DIV
1
2
3
4
5
6
0.040000
3.000000
GHz
CH1 - S11
REFERENCE PLANE
1.4841 mn
MARKER 4
0.458100 GHz
-2.607 dB
MARKER TO MAX
▶MARKER TO MIN
1 0.049250 GHz
-2.044 dB
2 0.152850 GHz
-1.131 dB
3 0.287900 GHz
-0.797 dB
5 2.337700 GHz
-10.363 dB
6 2.361750 GHz
-20.235 dB
MARKER READOUT
FUNCTIONS

FIG. 6B

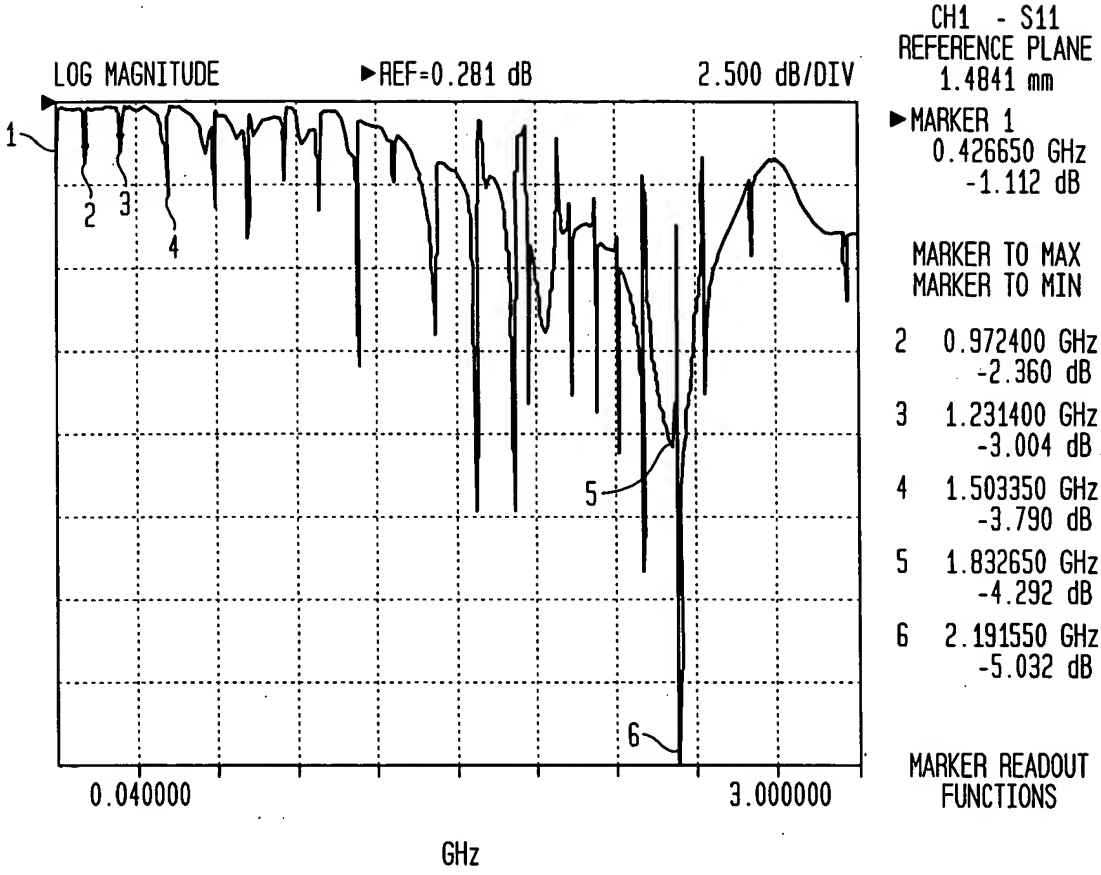

LOG MAGNITUDE
▶REF=0.281 dB
2.500 dB/DIV
1
2
3
4
5
6
0.040000
3.000000
GHz
CH1 - S11
REFERENCE PLANE
1.4841 mm
▶MARKER 1
0.426650 GHz
-1.112 dB
MARKER TO MAX
MARKER TO MIN
2 0.972400 GHz
-2.360 dB
3 1.231400 GHz
-3.004 dB
4 1.503350 GHz
-3.790 dB
5 1.832650 GHz
-4.292 dB
6 2.191550 GHz
-5.032 dB
MARKER READOUT
FUNCTIONS

FIG. 7

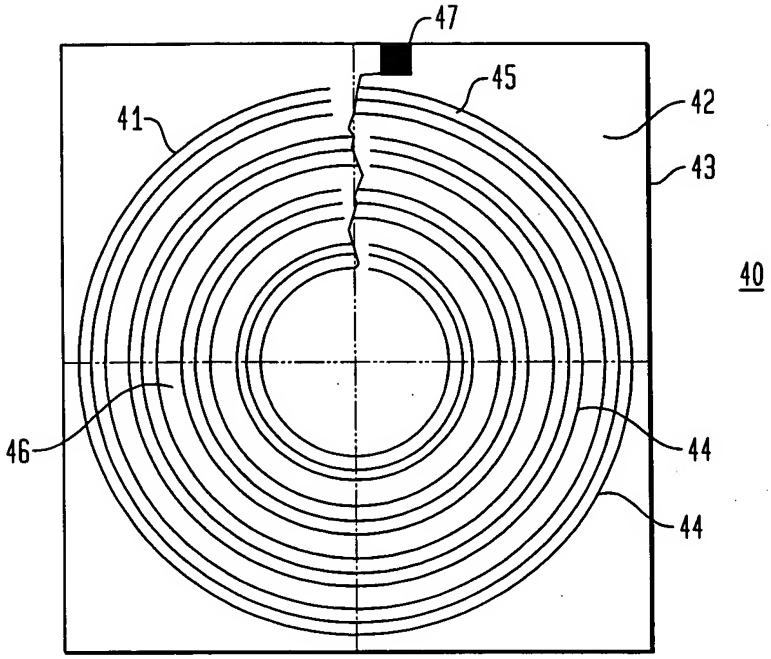


FIG. 8

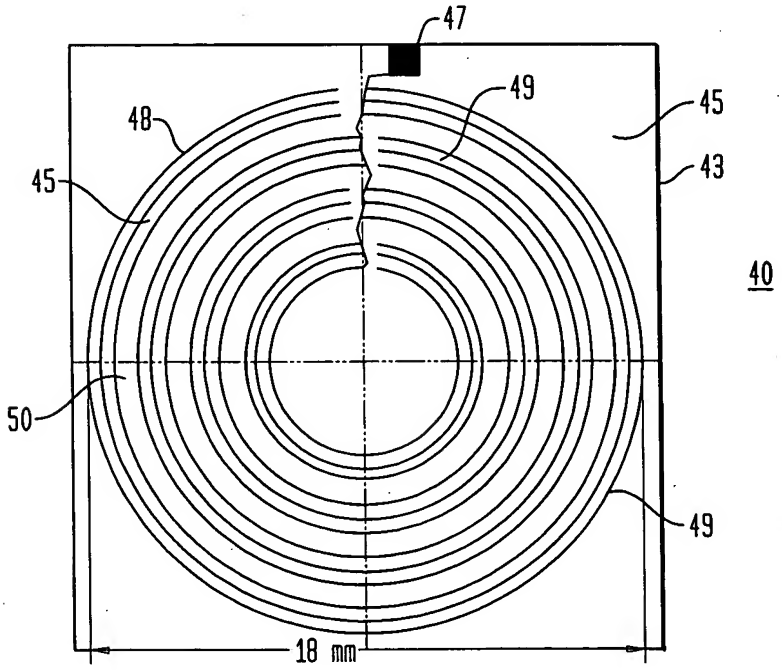
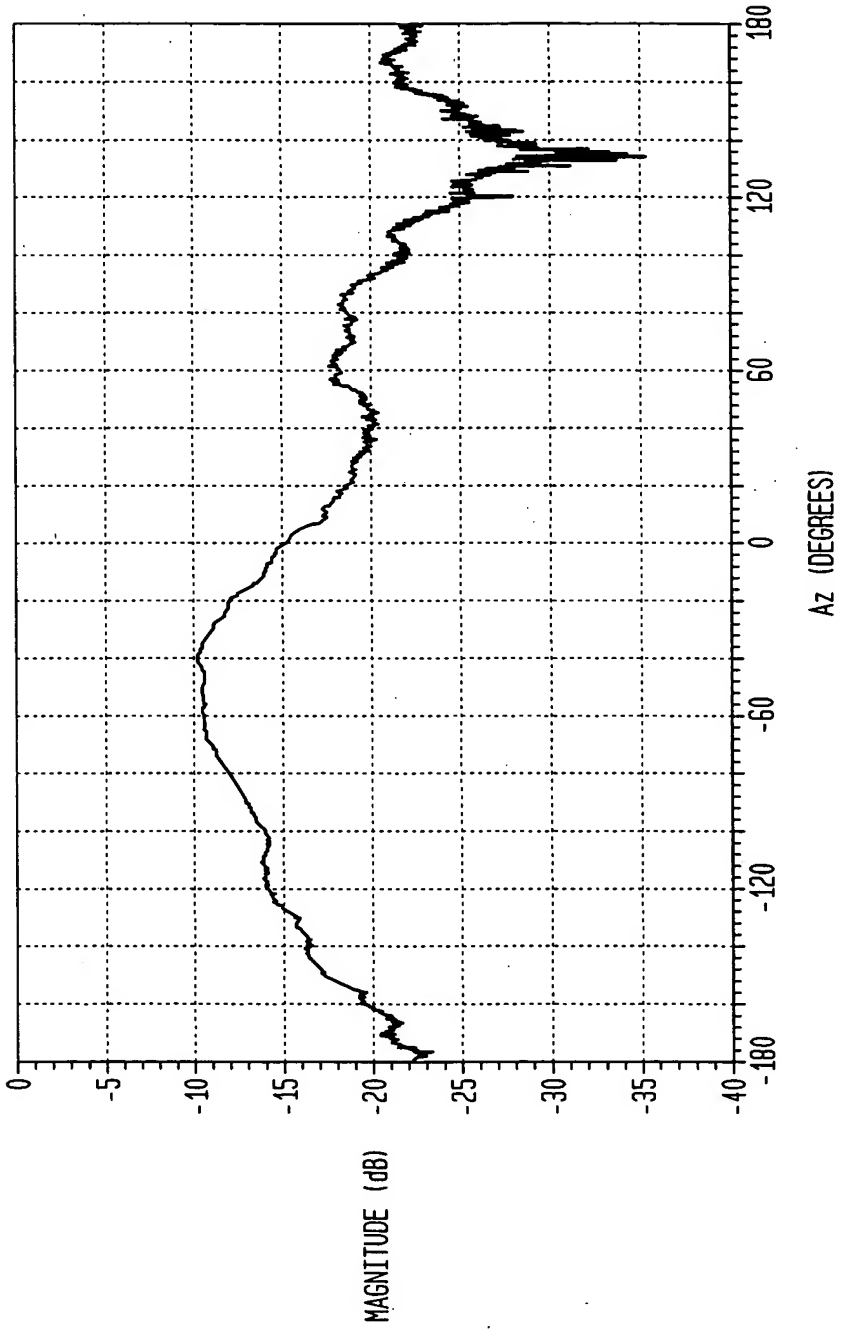


FIG. 9A


0
-5
-10
-15
-20
-25
-30
-35
-40
MAGNITUDE (dB)
180
120
60
0
-60
-120
-180
Az (DEGREES)

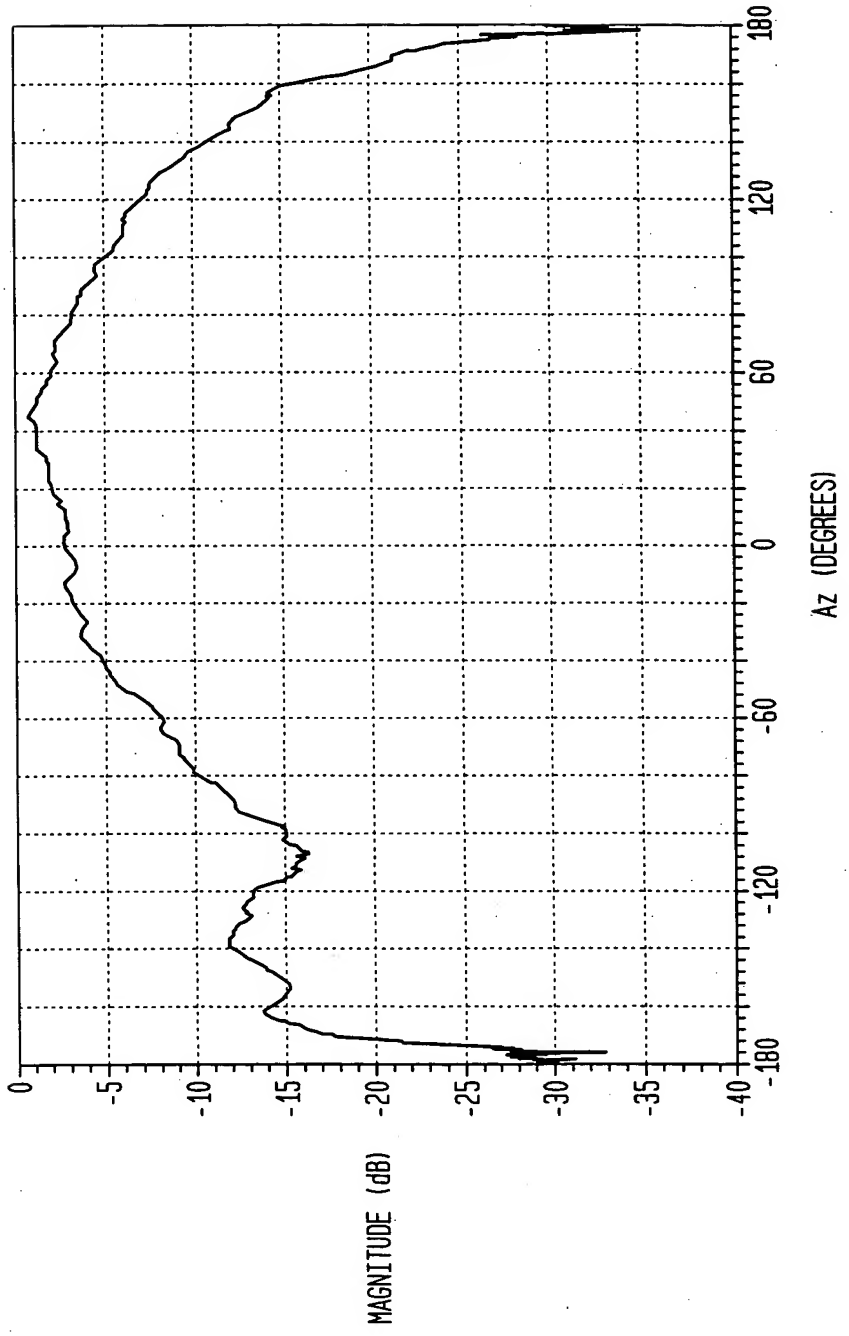

0
-5
-10
-15
-20
-25
-30
-35
-40
MAGNITUDE (dB)
180
120
60
0
-60
-120
-180
Az (DEGREES)

FIG. 9B

HP OfficeJet
Personal Printer/Fax/Copier

Fax Log Report for
CECOM LEGAL OFFICE
+1 732 3893396
May-21-03 06:56

Identificati n	Result	Pages	Type	Date	Time	Durati n	Diagn stic
17328970774	No answer	00	Sent	May-21	06:55	00:00:00	002080000000

7.2.0

Tereschuk, George B CECOM LEGAL

From: Tereschuk, George B CECOM LEGAL
Sent: Tuesday, May 20, 2003 11:17 AM
To: 'SONORORDCORP@ATT.NET'
Subject: CECOM 5458

Shapur, after delays caused by funding for drawings and then drafting time, I finally have a set of drawings for your review. I tried faxing them to you earlier this morning to 732-897-0774, but have not recived a confirmation yet. Is that still a good fax number for you? If not please let me know your current fax number.

Attached is the draft patent application. On pages 1, 2, 5, 10, 11 and 12, please fill-in blanks (XXXXX) in those places where more information is needed. Please look at the drawings first. Please send corrections to me at 732-389-3396.

I hope that you are well. Thanks, George.

5458A-2invr.doc

Tereschuk, Georg B CECOM LEGAL

From: Tereschuk, George B CECOM LEGAL
Sent: Wednesday, June 11, 2003 3:32 PM
To: 'SONORORDCORP@ATT.NET'
Subject: FW: CECOM 5458

Importance: High

Shapur, could you please reply to my message below? Thanks, George.

-----Original Message-----
From: Tereschuk, George B CECOM LEGAL
Sent: Tuesday, May 20, 2003 11:17 AM
To: 'SONORORDCORP@ATT.NET'
Subject: CECOM 5458

Shapur, after delays caused by funding for drawings and then drafting time, I finally have a set of drawings for your review. I tried faxing them to you earlier this morning to 732-897-0774, but have not recived a confirmation yet. Is that still a good fax number for you? If not please let me know your current fax number.

Attached is the draft patent application. On pages 1, 2, 5, 10, 11 and 12, please fill-in blanks (XXXXX) in those places where more information is needed. Please look at the drawings first. Please send corrections to me at 732-389-3396.

I hope that you are well. Thanks, George.

5458A-2invr.doc

Tracking:

Recipient	Delivery
'SONORORDCORP@ATT.NET'	
Buki, Ursula CECOM LEGAL	Delivered: 6/11/2003 3:32 PM

Tereschuk, George B CECOM LEGAL

From: Mail Administrator [Postmaster@worldnet.att.net]
Sent: Wednesday, June 11, 2003 3:33 PM
To: george.tereschuk@us.army.mil
Subject: Mail System Delivery Report


ATT241919.TXT


ATT241920.TXT

Your message was successfully delivered to its final destination.
This is a notification of that fact, as you requested.

Please reply to Postmaster@worldnet.att.net
if you feel this message to be in error.

Reporting-MTA: dns; mtiwgwc16.worldnet.att.net
Arrival-Date: Wed, 11 Jun 2003 19:33:03 +0000
Received-From-MTA: dns; mtiwgwc16.worldnet.att.net (127.0.0.1)

Final-Recipient: RFC822; <SONORORDCORP@worldnet.att.net>
Action: delivered
Status: 2.1.5

```
Return-receipt-to: "Tereschuk, George B CECOM LEGAL"
        <George.Tereschuk@us.army.mil>
Received: from mtiwgwc16.worldnet.att.net ([127.0.0.1])
 by mtiwgwc16.worldnet.att.net
 (InterMail vM.5.01.05.12 201-253-122-126-112-20020820)
 with ESMTP id
<20030611193303.WUPG23350.mtiwgwc16.worldnet.att.net@mtiwgwc16.worldnet.att.net> for
 <SONORORDCORP@worldnet.att.net>; Wed, 11 Jun 2003 19:33:03 +0000
Received: from cecom6.monmouth.army.mil ([134.80.0.9])
 by mtiwgwc16.worldnet.att.net (mtiwgwc16)
 with ESMTP id <20030611193258016OOkijqoe>; Wed, 11 Jun 2003 19:33:01 +0000
Received: from mailsw2.monmouth.army.mil
 (mailsw2.monmouth.army.mil [134.80.5.41])      by cecom6.monmouth.army.mil
 (8.12.9/8.12.9) with ESMTP id h5BJWvEY020721   for <SONORORDCORP@att.net>; Wed,
 11 Jun 2003 15:32:57 -0400 (EDT)
Received: from swgm6.monmouth.army.mil (unverified)
 by mailsw2.monmouth.army.mil (Content Technologies SMTPRS 4.3.6)
 with ESMTP id <T62c3e7ca3e865005299d8@mailsw2.monmouth.army.mil> for
 <SONORORDCORP@att.net>; Wed, 11 Jun 2003 15:32:22 -0400
Received: by swgm6.monmouth.army.mil with Internet Mail Service (5.5.2656.59)
        id <MNNXT3YL>; Wed, 11 Jun 2003 15:31:55 -0400
Date: Wed, 11 Jun 2003 15:32:02 -0400
From: "Tereschuk, George B CECOM LEGAL" <George.Tereschuk@us.army.mil>
Subject: FW: CECOM 5458
To: "'SONORORDCORP@ATT.NET'" <SONORORDCORP@att.net>
Message-id: <CAAE2E545EC14E448159ECE45334D67E23ACA9@mail5.monmouth.army.mil>
MIME-version: 1.0
X-Mailer: Internet Mail Service (5.5.2656.59)
Content-type: TEXT/PLAIN
Content-transfer-encoding: QUOTED-PRINTABLE
Importance: high
X-Priority: 1
```

SAHBA, SHAPUR (DR.) Left Govt. SS # 219-06-7375

CECOM, RDEC, I2WD - Bldg. 600 (M) 12/2002 DOB: 7/20/56
ATTN: AMSEL-RD-IW-TI POB: Tehran, Iran
Ext. (732) [redacted]756[redacted] 999 Citizenship: U.S.A.

Electronics Engineer
GS-855-12

12 Willow Drive
P.O. Box 1684
[redacted]all, NJ 07719[redacted]2
Oceanport

(732) 695-0421

~~Regards,~~ Shapur Sahba, Ph.D.
Principal Scientist

Sonoro R&D Corporation
e-mail: SONORORDCORP@ATT.NET
tel: 732-897-0940
fax: 732-897-0774

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

July 23, 2003

Intellectual Property
Law Division

Dr. Shapur Sahba
P.O. Box 1684
Ocean, NJ 07712

Re: Invention Disclosure CECOM 5458
entitled MULTI-RESONANT DOUBLE-SIDED HIGH-TEMPERATURE SUPERCONDUCTIVE MAGNETIC DIPOLE ANTENNA
by Shapur Sahba

Dear Dr. Sahba:

Enclosed for your review please find the final draft of a patent application with drawings. We have tried to reach you several times by phone, fax and e-mail at work and at home. Please contact us as soon as possible so that we can correct our records.

If you have any questions, please do not hesitate to call George B. Tereschuk Esq., at (732) 532-9795 or the undersigned.

Thank you for your cooperation.

Sincerely,

Ursula Buki

Ursula Buki
Paralegal Specialist
Tel.: (732) 532-3187

Encls.

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

July 23, 2003

Intellectual Property
Law Division

Dr. Shapur Sahba
12 Willow Drive
Ocean, NJ 07712

Re: Invention Disclosure CECOM 5458
entitled MULTI-RESONANT DOUBLE-SIDED HIGH-TEMPERATURE SUPERCONDUCTIVE MAGNETIC DIPOLE ANTENNA
by Shapur Sahba

Dear Dr. Sahba:

Enclosed for your review please find the final draft of a patent application with drawings. We have tried to reach you several times by phone, fax and e-mail at work and at home. Please contact us as soon as possible so that we can correct our records.

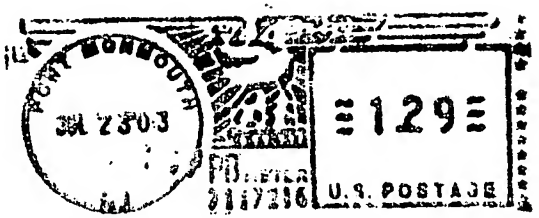
If you have any questions, please do not hesitate to call George B. Tereschuk Esq., at (732) 532-9795 or the undersigned.

Thank you for your cooperation.

Sincerely,

Ursula Buki
Paralegal Specialist
Tel.: (732) 532-3187

Encls.



first class

DEPARTMENT OF THE ARMY
US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
ATTN: AMSEL-LG-L
FORT MONMOUTH, NJ 07703-5010

OFFICIAL BUSINESS

#18

Dr. Shapur Sa[illegible]
P.O. Box 1684
Ocean, [illegible]

A ☒ INSUFFICIENT ADDRESS
C ☒ ATTEMPTED NOT KNOWN
S ☐ NO SUCH NUMBER/ STREET
☐ NOT DELIVERABLE AS ADDRESSED - UNABLE TO FORWARD
☐ OTHER

RTS
RETURN TO SENDER

DA Label 18-1, Sep 83
Edition of Oct 74 will be used until exhausted

first class

first class

DEPARTMENT OF THE ARMY
COMMANDER
US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
ATTN: AMSEL-LG-L
FORT MONMOUTH, NJ 07703-5010
OFFICIAL BUSINESS

#18

DA Label 18-1, Sep 83
Edition of Oct 74 will be used until exhausted.

Dr. Shapur Sahba
12 Willow Drive
Ocean, NJ 07712

first class

iwon Search Powered by Google

Advanced Search Search Help Search Tips

shapur sahba Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **shapur sahba**. No entries for clicks on results. search took **0.30** s

web sites | provided by Google

Results **1-8** of about **10**

IN MEMORIAM PARENTS AND FRIENDS
... Katherine M. Reinleitner Mrs. Patricia Cady Remmer Dr. Ricardo Rosales Dr. Gertrude F. Rothschild Mr. & Mrs. Seymour R. Russell **Shapur Sahba** Ms. Edith Samers ...
http://www.engineering.columbia.edu/news/archive/engnews_s99/donors8.html - Cached

ASC: Technology for the 21st Century / Schedule
... **Shapur Sahba**, Columbia University, IEEE member, US Army, CECOM-RDEC; Erzhen Gao, QY Ma, Electrical Engineering Department, Columbia University, New York, NY. ...
http://sensor.northgrum.com/es/stc/asc/00ASC_Electronics.htm - Cached

A HTS Multi-Pole Filter Operating at HF Range
... Hui Xu, Erzhen Gao, **Shapur Sahba**, QY Ma (Electrical Engineering, Columbia University, New York, NY 10027), Jeffery M. Pond (Microwave Technology Branch, Naval ...
http://www.eps.org/aps/meet/CENT99/BAPS/abs/S6687164.html - Cached

Wednesday afternoon, 24 March 1999
... Operating at HF Range Hui Xu, Erzhen Gao, **Shapur Sahba**, QY Ma (Electrical Engineering, Columbia University, New York, NY 10027), Jeffery M. Pond (Microwave ...
http://www.eps.org/aps/meet/CENT99/BAPS/tocR.html - Cached

Shahba
... reign, he strove to develop his birthplace, to end the rampant anarchy that raged throughout the Empire, and to make peace with the Persian King, **Shapur** I, in ...
http://www.syriatourism.org/Destinations/sahba.htm - Cached

Male Persian baby names
... Sa'id | Sabbar | Sadegh | Sader | Sadra | Sadri | Saeed | Safa | **Sahba** | Said | Saied ... Shahvar | Shahyar | Shams-o-ddin | Shapour | **Shapur** | Shatrevar | Shaya ...
http://www.kabalarians.com/male/persia-m.htm - Cached

East
... Roxana, Roya, Ruhiyyih, Saba, Sadaf, Saeedeh. Saghar, Saghi, Sahar, **Sahba**, Sakineh, Salma. Salomeh, Saltanah, Saman, Sameen, Samila, Samin. ... **Shapur**, Vahram, Valkas, Yazdgard, Rulers. ...
http://www.gaminggeeks.org/Resources/KateMonk/Middle-East/East/Iran.htm - Cached

Names
... Shahryar, Shahvar, Shahvir, Shahyar, Shahzad, Shams-o-ddin. Shapour, **Shapur**, Shatrevar, Shaya, Shayan, Sheherazad. ... Saeedeh, Saghar, Saghi, Sahar, **Sahba**, Sakineh. ...
http://ket.living-greyhawk.com/names.html - Cached

Result Page: **1** 2

Click on a popular search topic below

Casino	Finance	Entertainment
• Poker	• Debt Consolidation	• Online Casino
• Bingo	• Mortgage	• Free Music

- Blackjack
- Video Poker
- Refinance
- Credit Card Debt
- Movies
- Satellite TV

Classifieds
- Airline Tickets
- Hotels
- Dating
- Vacations

Health
- Viagra
- Sexual Health
- Weight Loss
- Hair Loss

Technology
- Data Recovery
- Computer Training
- Website Hosting
- Web Services

Search for "shapur sahba" in Yellow Pages City State or Zip Find

Clear saved location

Advanced Search Search Help Search Tips

shapur sahba Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **shapur sahba**. No entries for clicks on results. search took **0.30** s

Can't find it here? Try www.mysearch.com.

My Search features search results from Google, AltaVista, Ask Jeeves, AlltheWeb, and Looksmart.

About Search Results

iWon Search Powered by Google

Advanced Search Search Help Search Tips

shapur sahba Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **shapur sahba**. No entries for clicks on results. search took **0.07** s

web sites | provided by Google Results **11-18** of about **10**

IN MEMORIAM PARENTS AND FRIENDS
... Katherine M. Reinleitner Mrs. Patricia Cady Remmer Dr. Ricardo Rosales Dr. Gertrude F. Rothschild Mr. & Mrs. Seymour R. Russell **Shapur Sahba** Ms. Edith Samers ...
http://www.engineering.columbia.edu/news/archive/engnews_s99/donors8.html - Cached

ASC: Technology for the 21st Century / Schedule
... **Shapur Sahba**, Columbia University, IEEE member, US Army, CECOM-RDEC; Erzhen Gao, QY Ma, Electrical Engineering Department, Columbia University, New York, NY. ...
http://sensor.northgrum.com/es/stc/asc/00ASC_Electronics.htm - Cached

A HTS Multi-Pole Filter Operating at HF Range
... Hui Xu, Erzhen Gao, **Shapur Sahba**, QY Ma (Electrical Engineering, Columbia University, New York, NY 10027), Jeffery M. Pond (Microwave Technology Branch, Naval ...
http://www.eps.org/aps/meet/CENT99/BAPS/abs/S6687164.html - Cached

Wednesday afternoon, 24 March 1999
... Operating at HF Range Hui Xu, Erzhen Gao, **Shapur Sahba**, QY Ma (Electrical Engineering, Columbia University, New York, NY 10027), Jeffery M. Pond (Microwave ...
http://www.eps.org/aps/meet/CENT99/BAPS/tocR.html - Cached

Shahba
... reign, he strove to develop his birthplace, to end the rampant anarchy that raged throughout the Empire, and to make peace with the Persian King, **Shapur** I, in ...
http://www.syriatourism.org/Destinations/sahba.htm - Cached

Male Persian baby names
... Sa'id | Sabbar | Sadegh | Sader | Sadra | Sadri | Saeed | Safa | **Sahba** | Said | Saied ... Shahvar | Shahyar | Shams-o-ddin | Shapour | **Shapur** | Shatrevar | Shaya ...
http://www.kabalarians.com/male/persia-m.htm - Cached

East
... Roxana, Roya, Ruhiyyih, Saba, Sadaf, Saeedeh. Saghar, Saghi, Sahar, **Sahba**, Sakineh, Salma. Salomeh, Saltanah, Saman, Sameen, Samila, Samin. ... **Shapur**, Vahram, Valkas, Yazdgard, Rulers. ...
http://www.gaminggeeks.org/Resources/KateMonk/Middle-East/East/Iran.htm - Cached

Names
... Shahryar, Shahvar, Shahvir, Shahyar, Shahzad, Shams-o-ddin. Shapour, **Shapur**, Shatrevar, Shaya, Shayan, Sheherazad. ... Saeedeh, Saghar, Saghi, Sahar, **Sahba**, Sakineh. ...
http://ket.living-greyhawk.com/names.html - Cached

Result Page: Prev 1 **2**

Advanced Search Search Help Search Tips

shapur sahba Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **shapur sahba**. No entries for clicks on results. search took **0.07** s

Can't find it here? Try www.mysearch.com.
My Search features search results from Google, AltaVista, Ask Jeeves, AlltheWeb, and Looksmart.

About Search Results

iWon Search Powered by Google

Advanced Search Search Help Search Tips

sonoro R&D corporation Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **sonoro R&D corporation**. No entries for clicks on results. search took **0.41** s

web sites | provided by Google Results **11-20** of about **10**

::::... BIENVENIDO A YAMAHA MÉXICO ..:::
... Yamaha abre el estudio de **R&D** en Londres. ... se cambia oficialmente a la " Yamaha **Corporation**" para marcar ... crear el Procesador Digital de Campo **Sonoro**, un sistema ...
http://www.yamaha.com.mx/mexico/cronologia.html - Cached

Scienza e Tecnologia in Svezia 2000
... 3. Lotta contro l'inquinamento **sonoro** I rumori a bassa ... sara' diretto da un consorzio di **R&D** tra I ... con la societa' canadese Axia Net Media **Corporation**. ...
http://www.itemb.se/science/Notiziari2000.html - Cached

TEL: 92-21-4968845 FAX: 92-21- 2432716
... by the years of experience, continuous **R&D**, a team ... Friends Engineering **Corporation** products: Die Cutting Machine ... utilizzata anche per isolamento **sonoro** e termico ...
http://infomanage.com/cis/business/browse.php - Cached

Glenn Hauser's Shortwave/DX Report
... Copyright 2002 Canadian Broadcasting **Corporation** - All Rights Reserved ... tu radio digital" Este archivo **sonoro** está a la ... Staff with BBC **R&D** or BBC World Service ...
http://www.dxing.com/dxr/dxld3113.htm - Cached

Normas de Accesibilidad de la Informática
... ya que carecen del refuerzo **sonoro** que éste ... Software Design Guidelines Trace **R&D** Center, Dpto ... the Microsoft Windows Systems Microsoft **Corporation** Criterios de ...
http://www.cettico.fi.upm.es/aenor/whole.pdf - Cached

Summer '96
... Oregon, Eugene • Peter Donovan (associate), Enterprise T EXAS • Angela Neville (active), Environmental Protection, Stevens Publishing **Corporation**, Waco V ...
http://notes.sej.org/sej/sejourna.nsf/0/f128e6a213a8bd0386256d1f00037251/$FILE/sej_su96.pdf - Cached

WEB HI TECH
... core competences della compagnia, quali **R&D**, sviluppo dei ... Industries Inc., Robohand, SMC **Corporation** of America ... ascolto con un fronte **sonoro** espanso, eliminando ...
http://www.marketpress.info/003%20notiziari/anno%202002/09%20settembre%20news%202002/27%20VEn%202002/pag%2005%20VEnews.htm - Cached

Notícias dos Mercados Brasileiro e Latino Americano
... Dana fecha trimestre com lucro A Dana **Corporation** fechou o segundo trimestre com ... determinar que uma colisão é provável, ele emite um sinal **sonoro** eo cinto ...
http://www.carcon.com.br/noticiasIntjul03.htm - Cached

MODULE I UNEP
... Ingeniero Principal de Almacenamiento Ghana Food Distribution **Corporation**, Ghana. Sr. Zhong Shunhe, Ingeniero General Adjunto Director, **R&D** China Household ...
http://www.uneptie.org/ozonaction/library/training/codesgps.pdf - Cached

di domenico -21ediprint.p65
... Grafico 4 ? Indicatori di performance tecnologica: Gross Expenditure on **R&D** (Spesa lorda ... maniera integrata di ogni tipo di dato (visivo, **sonoro**, verbale, ecc ...
http://www.seu.it/qua19.pdf - Cached

Result Page: Prev 1 2

Advanced Search Search Help Search Tips

sonoro R&D corporation Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **sonoro R&D corporation**. No entries for clicks on results. search took **0.41** s

Can't find it here? Try www.mysearch.com.

My Search features search results from Google, AltaVista, Ask Jeeves, AlltheWeb, and Looksmart.

About Search Results

iwon Search Powered by Google

Advanced Search Search Help Search Tips

sonoro R&D corporation Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **sonoro R&D corporation**. No entries for clicks on results. search took **0.14** s

web sites | provided by Google Results **1-10** of about **10**

::::... BIENVENIDO A YAMAHA MÉXICO ...:::
... Yamaha abre el estudio de **R&D** en Londres. ... se cambia oficialmente a la " Yamaha **Corporation**" para marcar ... crear el Procesador Digital de Campo **Sonoro**, un sistema ...
http://www.yamaha.com.mx/mexico/cronologia.html - Cached

Scienza e Tecnologia in Svezia 2000
... 3. Lotta contro l'inquinamento **sonoro** I rumori a bassa ... sara' diretto da un consorzio di **R&D** tra I ... con la societa' canadese Axia Net Media **Corporation**. ...
http://www.itemb.se/science/Notiziari2000.html - Cached

TEL: 92-21-4968845 FAX: 92-21- 2432716
... by the years of experience, continuous **R&D**, a team ... Friends Engineering **Corporation** products: Die Cutting Machine ... utilizzata anche per isolamento **sonoro** e termico ...
http://infomanage.com/cis/business/browse.php - Cached

Glenn Hauser's Shortwave/DX Report
... Copyright 2002 Canadian Broadcasting **Corporation** - All Rights Reserved ... tu radio digital" Este archivo **sonoro** está a la ... Staff with BBC **R&D** or BBC World Service ...
http://www.dxing.com/dxr/dxld3113.htm - Cached

Normas de Accesibilidad de la Informática
... ya que carecen del refuerzo **sonoro** que éste ... Software Design Guidelines Trace **R&D** Center, Dpto ... the Microsoft Windows Systems Microsoft **Corporation** Criterios de ...
http://www.cettico.fi.upm.es/aenor/whole.pdf - Cached

Summer '96
... Oregon, Eugene • Peter Donovan (associate), Enterprise T EXAS • Angela Neville (active), Environmental Protection, Stevens Publishing **Corporation**, Waco V ...
http://notes.sej.org/sej/sejourna.nsf/0/f128e6a213a8bd0386256d1f00037251/$FILE/sej_su96.pdf - Cached

WEB HI TECH
... core competences della compagnia, quali **R&D**, sviluppo dei ... Industries Inc., Robohand, SMC **Corporation** of America ... ascolto con un fronte **sonoro** espanso, eliminando ...
http://www.marketpress.info/003%20notiziari/anno%202002/09%20settembre%20news%202002/27%20VEn%202002/pag%2005%20VEnews.htm - Cached

Notícias dos Mercados Brasileiro e Latino Americano
... Dana fecha trimestre com lucro A Dana **Corporation** fechou o segundo trimestre com ... determinar que uma colisão é provável, ele emite um sinal **sonoro** eo cinto ...
http://www.carcon.com.br/noticiasIntjul03.htm - Cached

MODULE I UNEP
... Ingeniero Principal de Almacenamiento Ghana Food Distribution **Corporation**, Ghana. Sr. Zhong Shunhe, Ingeniero General Adjunto Director, **R&D** China Household ...
http://www.uneptie.org/ozonaction/library/training/codesgps.pdf - Cached

di domenico -21ediprint.p65
... Grafico 4 ? Indicatori di performance tecnologica: Gross Expenditure on **R&D** (Spesa lorda ... maniera integrata di ogni tipo di dato (visivo, **sonoro**, verbale, ecc ...
http://www.seu.it/qua19.pdf - Cached

Result Page: **1** 2

Advanced Search Search Help Search Tips

sonoro R&D corporation Google Search

Registered iWon users receive 7 entries per search

Search Results | Images | Shopping | Directory Categories | Directory Results | return to iWon M

Searched the web for **sonoro R&D corporation**. No entries for clicks on results. search took **0.14** s

Can't find it here? Try www.mysearch.com.

My Search features search results from Google, AltaVista, Ask Jeeves, AlltheWeb, and Looksmart.

About Search Results

CECOM 5458

INVENTION RIGHTS QUESTIONNAIRE

For use of this form, see AR 27-60; the proponent agency is OTJAG

READ THE INSTRUCTI NS BELOW BEFORE COMPLETING THIS FORM

o Under Executive Order 10096, 23 January 1950, and AR 27-60, whenever an invention is made by a military or civilian employee of the Department of the Army, it is necessary to determine the rights in the invention as between the Government and the inventor. There are three ways in which rights may be determined:

-- The inventor may be entitled to all rights and the Government to none (and hence the inventor need sign no document giving any rights to the Government);

-- The Government may be entitled to a license permitting it to use or practice the invention and the inventor entitled to all other rights (and hence the inventor signs a license to the Government);

-- The Government may be entitled to all rights and the inventor to none (and hence the inventor signs an assignment to the Government).

o Separate and distinct from the determination of rights, and even though it may appear that the inventor is entitled to all rights in the invention, the inventor may sign a license permitting the Government to use and practice the invention in return for which the Government will prosecute an application for a patent on the invention at no expense to the inventor, provided the Government is sufficiently interested in the invention.

o If the inventor desires voluntarily to assign all rights in the invention to the Government, he may complete PART A below. The remaining questions need not be answered.

o If the inventor does not desire to voluntarily assign all rights in the invention to the Government, it is necessary that all questions be answered completely. The determination of the rights in the invention depends upon the facts and circumstances under which the invention was made. In almost every case a failure to provide sufficient information works to the disadvantage of the inventor. If additional space is needed to fully answer any question, an attached sheet will be used. Many questions may be answered by a check mark; however, every question must be answered even if the appropriate answer is "No", "None", or "NA"(not applicable). Print or type all answers.

SECTION I - TO BE COMPLETED BY THE INVENTOR

PART A - BASIC DATA

1. BRIEF TITLE OF INVENTION: Double-Sided High-Temperature Superconductive Micro-Antennae (Three configurations).

2. NAME OF INVENTOR: SHAPUR SAHBA

3. GRADE AT TIME INVENTION WAS MADE: GS-855-12

4. JOB TITLE AT TIME INVENTION WAS MADE: Electronics Engineer

5. COMPLETE NAME OF ORGANIZATION AT TIME INVENTION WAS MADE *(Include, as applicable, unit, section, branch, division, department, laboratory, post, camp, station, branch of Army)*

U.S. Army, Communications-Electronics Command (CECOM), Research, Development, and Engineering Center (RDEC), ~~Electronic~~ Intelligence & Information Warfare Directorate (I2WD)

6. I DESIRE TO ASSIGN TO THE UNITED STATES GOVERNMENT THE ENTIRE RIGHT, TITLE AND INTEREST IN AND TO THE ABOVE IDENTIFIED INVENTION. *(Signature below is necessary only if assigning rights of invention to the Government. Completion of the remainder of this form is not necessary if you sign below.)*

a. SIGNATURE OF INVENTOR _____

b. DATE _____

DA FORM 2871-R, APR 93 REPLACES DA FORM 2871, JAN 65, WHICH IS OBSOLETE

Note: The Layout & the results of simulations of three different Double-Sided HTS Micro-Antennae are being attached.

SECTION I - (CONTINUED)

PART B - MAKING OF THE INVENTION

NOTE: The making of an invention generally involves its conception or discovery followed by a series of acts which establish the correctness or operativeness of the idea. Depending upon the nature of the invention, these acts may involve the making of sketches, drawings, written descriptions, the making and testing of a model, the carrying out of a process, or the production of a composition of matter.

7. BEFORE THE INVENTION WAS PHYSICALLY TRIED OUT OR PRODUCED IN MODEL OR WORKING FORM OR A COMPOSITION OF MATTER PRODUCED, WERE THE ESSENTIAL ELEMENTS OF THE INVENTION IN ITS OPERABLE AND PRACTICABLE FORM FULLY DISCLOSED IN WRITTEN DESCRIPTION, SKETCHES OR DRAWINGS IN SUCH A MANNER THAT THE INVENTION COULD BE PRODUCED OR PRACTICED FROM THEM WITHOUT THE EXERCISE OF ANY FURTHER INVENTIVE SKILL BY A PERSON WHO IS SKILLED IN THE FIELD TO WHICH THE INVENTION RELATES? *(If the answer is "yes" give the date such description, sketches or drawings were completed.)*

This Invention and the preliminary devices were disclosed to the U.S. NAVY in 1998. ☐ NO ☒ YES DATE See Explanation

8. WAS A MODEL MADE; OR, IF THE INVENTION IS A PROCESS, WAS THE PROCESS TRIED OUT; OR, IF THE INVENTION IS A COMPOSITION OF MATTER, WAS A COMPOSITION PRODUCED? *(If the answer is "yes" give the date such action took place.)*

☐ NO ☒ YES DATE May of 1996

9. IF A MODEL WAS MADE AND TESTED, A COMPOSITION PRODUCED OR A PROCESS CARRIED OUT, WAS IT DONE BECAUSE:

	YES	NO
a. IT WAS DESIRED TO TEST THE OPERABILITY OR PRACTICABILITY OF THE INVENTION?	X	
b. IT WAS DESIRED TO TEST THE USEFULNESS OF THE INVENTION TO THE GOVERNMENT?	X	

c. IF IT WAS DONE FOR SOME OTHER REASON STATE THAT REASON:

10. APPROXIMATELY HOW MUCH TOTAL TIME WAS SPENT BY YOU PERSONALLY IN MAKING THE INVENTION?

a. PERSONAL TIME *(In hours) (Nonduty working hours)*	b. GOVERNMENT TIME *(In hours) (Duty hours including paid overtime)*
nonduty 500 hours	Do not remember

11. EXPLAIN BRIEFLY THE USE, IF ANY, OF THE FOLLOWING ITEMS IN CONNECTION WITH THE MAKING OF THE INVENTION:

a. THE USE OF GOVERNMENT FACILITIES *(Buildings, such as laboratories, shops or office buildings, but not buildings such as barracks or recreation buildings.)*

Most of the Test/Characterization of the devices (Micro-Antennae) were conducted at the I2WD facilities, namely the Anechoic chamber, using the Government Equipment.

b. THE USE OF GOVERNMENT EQUIPMENT *(Such as instruments, tools or machinery.)*

The High-Temperature Superconducting Micro-Antennae. Can be used as the front-end elements for Transmitter or Receiver of Communications systems.

c. THE USE OF GOVERNMENT MATERIALS *(Supplies, reagents, parts or any other materials; if scrap, waste or salvage materials were used, so state; give estimate monetary value of materials consumed.)*

just a few Dollars for fabricating the Copper replica of the actual device.

d. THE USE OF GOVERNMENT FUNDS WHICH WERE ACTUALLY OBLIGATED OR EXPENDED FOR THE PURPOSE OF MAKING THE INVENTION. *(Other than salaries and wages, and Government contributions covered under other parts of this question.)*

The Antennae, subjects of this invention, are the results of R&D funded by the ARMY, CECOM, RDEC— I2WD.

SECTION I - (CONTINUED)

PART B - MAKING OF THE INVENTION (CONTINUED)

e. CONTRIBUTION OF INFORMATION BY THE GOVERNMENT *(Information which was available to you by reason of your official duties and not otherwise.)*

I am a Government Researcher, and my official duty is the R&D, and I have access to scientific information through the Government, Academic, and Personal channels.

f. CONTRIBUTION OF TIME OR SERVICES OF OTHER GOVERNMENT EMPLOYEES DURING NORMAL OR OVERTIME WORKING HOURS *(State approximate number of hours and type of assistance.)*

This research is conducted by the inventor (Shapur Sahba). The results of R&D has been discussed by my Government Co-work only on review. No other Person has been directly involved with the research

PART C - RELATIONSHIP BETWEEN THE INVENTION AND THE INVENTOR'S DUTIES

12. BRIEFLY, WHAT PROMPTED YOU TO MAKE THE INSTANT INVENTION OR HOW DID YOU GET THE IDEA FOR THE INVENTION?

My academic background is the design, fabrication, and analysis of Superconductive RF devices. The idea of HTS Micro-antennae seems a logical use of Superconduct

13. BRIEFLY AND IN BROAD TERMS, WHAT IS THE INVENTION SUPPOSED TO ACCOMPLISH?

- Very high efficiency.
- Very small size.
- Extremely low noise.
- Improving the overall performance.

14. WERE YOU EMPLOYED OR ASSIGNED:

	YES	NO
a. TO INVENT OR IMPROVE OR PERFECT ANY PROCESS, MACHINE, MANUFACTURE, DESIGN, OR COMPOSITION OF MATTER?		X
b. TO CONDUCT OR PERFORM RESEARCH OR DEVELOPMENT WORK?	X	
c. TO SUPERVISE, DIRECT, COORDINATE OR REVIEW GOVERNMENT-FINANCED OR CONDUCTED RESEARCH OR DEVELOPMENT WORK?		X
d. TO ACT IN A LIAISON CAPACITY AMONG GOVERNMENT OR NON-GOVERNMENTAL AGENCIES		X

15. DESCRIBE THE DUTIES, PROJECT OR AREA OF WORK TO WHICH YOU WERE ASSIGNED AT THE TIME THE INVENTION WAS MADE. STATE IN SUFFICIENT DETAIL TO MAKE THEM UNDERSTANDABLE.

I am an Army Researcher working on RF. Components/systems. My academic and professional background are working on the subject of Superconducting As the Army Engineer/Scientist I work on SIGINT components and related systems, which RF Components are the necessary devices for transmitter and receiver systems.

SECTION I -(CONTINUED)

PART C - RELATIONSHIP BETWEEN THE INVENTION AND THE INVENTOR'S DUTIES (CONTINUED)

16. STATE ANY FACTS OR CIRCUMSTANCES NOT COVERED IN YOUR ANSWERS ABOVE WHICH YOU BELIEVE WOULD HAVE A BEARING ON EITHER THE GOVERNMENT'S OR YOUR RIGHTS IN THE INVENTION.

This invention is the result of theoretical analysis, and therefore resulting design. Many non-duty hours have been spent on this invention. The original theoretical concept was conceptulized prior to my employment with the U.S. Army. One of the most important reasons in accepting employment with the U.S. Government, for me, was to be able to conduct research and development based on my academic background. I always hoped that by being employed by the U.S. Goverment, I will have the opportunity to propose a scientific idea, and upon the proof of this ideas scientific merits, I will be allowed to conduct research. SEE NOTE

17. SIGNATURE BELOW IS NECESSARY IF YOU ARE NOT ASSIGNING RIGHTS OF THE INVENTION TO THE GOVERNMENT.

a. SIGNATURE OF INVENTOR [signature]

b. DATE May 2, 2000

SECTION II

TO BE COMPLETED BY THE IMMEDIATE SUPERVISOR OF THE INVENTOR AT THE TIME THE INVENTION WAS MADE

18. AS THE INVENTOR'S SUPERVISOR AT THE TIME OF THE INVENTION, WHAT CONTACT DID YOU HAVE WITH THE INVENTOR AND TO WHAT EXTENT DID YOU HAVE ACTUAL PERSONAL KNOWLEDGE OF THE INVENTOR'S DUTIES AND THE SUBSTANCE OF HIS INVENTION?

Inventor kept me informed of progress from design to test verification.

19. AT THE TIME THE INVENTION WAS MADE, WHAT WERE THE OFFICIAL DUTIES OF THE INVENTOR? IN ADDITION, SUBMIT A COPY OF THE JOB DESCRIPTION THE INVENTOR WAS WORKING UNDER AT THE TIME THE INVENTION WAS MADE.

Attached is job description. Inventor was working on small baseline Direction Finding project as part of warfighter Electronic Collection and Mapping, Science and Technology Objective.

20. AT THE TIME THE INVENTION WAS MADE, WHAT WERE THE SPECIFIC JOB OR PROJECT ASSIGNMENTS OF THE INVENTOR WHICH RELATED TO THE INVENTION AND WHAT WERE THEY INTENDED TO ACCOMPLISH?

Activities related to this disclosure where based on job assignments and on graduate thesis work.

Notes * The actual idea of designing a High-T_c SuperConductive Micro-Antenna device began in 1995, and by the opportunity of my employment with the U.S. Army, CECOM-RDEC, the idea was proposed to I2WD, and further was approved. The design was done at the Army facility, and the [illegible]

BEST AVAILABLE COPY

SECTION II - (CONTINUED)

21. TO THE BEST OF YOUR ABILITY, HOW WOULD YOU DESCRIBE THE RELATIONSHIP BETWEEN THE INVENTION AND THE INVENTOR'S SPECIFIC JOB OR PROJECT ASSIGNMENT MOST CLOSELY RELATED TO THE INVENTION AT THE TIME IT WAS MADE.

	YES	NO
DIRECTLY RELATED	X	
RELATED, BUT NOT DIRECTLY		
UNRELATED		

22. WAS THE INVENTION THE SET GOAL OF A SPECIFIC TASK ASSIGNED TO THE INVENTOR? *(If the answer is "yes" questions 23 and 24 need not be answered.)*

YES	NO
X	

23. ONCE THE INVENTOR HAD THE IDEA FOR THE INVENTION, WOULD HE/SHE HAVE HAD TO OBTAIN THE APPROVAL OF HIS/HER SUPERIORS TO CONTINUE DEVELOPMENT WORK ON IT *AS A GOVERNMENT PROJECT* OR COULD HE/SHE HAVE PROCEEDED UNDER HIS/HER OWN AUTHORITY?

	YES	NO
NEEDED APPROVAL		
COULD PROCEED ON HIS/HER OWN	X	

24. IF THE ANSWER TO QUESTION 23 WAS THAT THE INVENTOR "NEEDED APPROVAL", DO YOU THINK THAT THE INVENTION WAS SO RELATED TO HIS/HER DUTIES THAT HE/SHE WAS UNDER AN OBLIGATION TO REVEAL IT TO HIS/HER SUPERIORS WITH THE IDEA OF OBTAINING AUTHORIZATION OR AN ASSIGNMENT TO PERFORM DEVELOPMENT WORK ON IT?

YES	NO

25. ARE YOU IN ACCORD WITH THE REPLIES WHICH THE INVENTOR HAS MADE TO EACH OF THE ITEMS IN SECTION I ABOVE?

YES	NO
X	

26. IF THE ANSWER TO QUESTION 25 IS "NO", DISCUSS AND EXPLAIN BELOW.

27. SUPERVISOR'S TITLE AT TIME INVENTION WAS MADE	28. DATE
Chief, Intelligence Collection Branch, J2WD	5/3/00

29. TYPED OR PRINTED NAME OF SUPERVISOR	30. SIGNATURE OF SUPERVISOR
Robert Foresta	Robert Foresta

Replaces 74-34772-132

DEPARTMENT OF THE ARMY
JOB DESCRIPTION

For use of this form see CPR 301 the proponent agency is OCSPER

JOB NUMBER: 01127

2. INSTALLATION OR HEADQUARTERS OFFICE
US Army Co[redacted]ications-Electronics
Command, Fort [redacted]outh, NJ

3. ORGANIZATIONAL ...
INTELLIGENCE AND ELECTRONIC WARFARE
DIRECTORATE
TECHNOLOGY DIVISION

4. CITATION TO APPLICABLE STANDARD AND THE DATE OF ISSUANCE
USCSC PCS Elec Engr Ser, GS-855, Feb 71:
USCSC Eq Dev Engr GEG, Pt I, Aug 66

5. TITLE
Electronics Engineer

6. PAY SCHEDULE	7. OCC CODE	8. GRADE
GS	0855	11

9. FAIR LABOR STANDARDS ACT	10. COMP LEVEL
☒ EXEMPT ☐ NONEXEMPT	085

EVALUATION APPROVAL

11. TITLE, PAY SCHEDULE, OCC CODE, AND GRADE OF THIS JOB HAVE BEEN FIXED IN ACCORDANCE WITH OFFICIAL POLICY AND GRADE LEVEL STANDARDS

(Signature) ______ 11 April 1986 (Date)

JOB CONTENT APPROVAL (COMPLETE ON ORGANIZATION COPY ONLY)

12.

a. I CERTIFY THAT THIS IS AN ACCURATE STATEMENT OF THE MAJOR DUTIES AND RESPONSIBILITIES OF THIS POSITION AND ITS ORGANIZATIONAL RELATIONSHIPS AND THAT THE POSITION IS NECESSARY TO CARRY OUT GOVERNMENT FUNCTIONS FOR WHICH I AM RESPONSIBLE. THIS CERTIFICATION IS MADE WITH THE KNOWLEDGE THAT THIS INFORMATION IS TO BE USED FOR STATUTORY PURPOSES RELATING TO APPOINTMENT AND PAYMENT OF PUBLIC FUNDS AND THAT FALSE OR MISLEADING STATEMENTS MAY CONSTITUTE VIOLATIONS OF SUCH STATUTES OR THEIR IMPLEMENTING REGULATIONS.

ROBERT F. GIORDANO, Director, EW/RSTA DIR ______ 8 Apr 86 (Date)
(Signature of Approving Supervisor)

b. THIS JOB DESCRIPTION WITH SUPPLEMENTAL MATERIAL IS ADEQUATE FOR PURPOSE OF EVALUATION.

(Signature of Position Classification Specialist) ______ 11 April 1986 (Date)

13. STATEMENT OF DUTIES AND RESPONSIBILITIES

SUPERVISORY CONTROLS

Assignments are received from supervisor or higher graded employee who provides background information, unusual aspects of assignment, means of problem solving and major objectives. Incumbent plans and completes assignments, adapts precedents or conventional engineering techniques, determines detailed methods of approach, and coordinates deviations, new requirements or problems with supervisor. Completed work is reviewed for soundness of decisions, consistency with requirements, technical adequacy and compatability with related parts of the overall projects.

MAJOR DUTIES

1. Plans and conducts projects pertaining to applied research, design, development, testing, initial acquisition and first fielding of new, modified or improved ~~Electronics Warfare/Reconnaissance Surveillance Target Acquisition (EW/RSTA)~~ IEW technology, equipment and systems. Assignments typically are independent portions of larger projects where most technical objectives are defined and can be achieved using proven theories and established techniques. The equipment and systems pertain to

BEST AVAILABLE COPY

... FORM MAY BE USED

U.S. GPO 1977-...

37 CFR
Patents, Trademarks, and Copyrights
CHAPTER V
UNDER SECRETARY FOR TECHNOLOGY, DEPARTMENT OF COMMERCE

SUBCHAPTER B -- COPYRIGHT ARBITRATION ROYALTY PANEL RULES AND PROCEDURES

PART 501 -- UNIFORM PATENT POLICY FOR RIGHTS IN INVENTIONS MADE BY GOVERNMENT EMPLOYEES

Sec.

Authority: Sec. 4, E.O. 10096, 3 CFR, 1949-1953 Comp., p. 292, as amended by E.O. 10930, 3 CFR, 1959-1963 Comp., p. 456 and by E.O. 10695, 3 CFR, 1954-1958 Comp., p. 355; DOO 10-17, July 15, 1992, and DOO 10-18, March 31, 1994.

Source: 53 FR 39735, Oct. 11, 1988, unless otherwise noted.

[TOP]

§501.1 Purpose.

The purpose of this part is to provide for the administration of a uniform patent policy for the Government with respect to the rights in inventions made by Government employees and to prescribe rules and regulations for implementing and effectuating such policy.

[61 FR 40999, Aug. 7, 1996]

[TOP]

§501.2 Scope.

This part applies to any invention made by a Government employee and to any action taken with respect thereto.

[TOP]

§501.3 Definitions.

(a) The term *Secretary*, as used in this part, means the Under Secretary of Commerce for Technology.

(b) The term *Government agency*, as used in this part, means any Executive department or independent establishment of the Executive branch of the Government (including any independent regulatory commission or board, any corporation wholly owned by the United States, and the Smithsonian Institution), but does not include the Department of Energy for inventions made under the provisions of 42 U.S.C. 2182, the Tennessee Valley Authority, or the Postal Service.

(c) The term *Government employee*, as used in this part, means any officer or employee, civilian or military, of any Government agency, including any special Government employee as defined in 18 U.S.C. 202 or an individual working for a Federal agency pursuant to the Intergovernmental Personnel Act (IPA), 5 U.S.C. 1304 and 3371-3376, or a part-time consultant or part-time employee as defined in 29 U.S.C. 2101(a)(8) except as may otherwise be provided by agency regulation approved by the Secretary.

(d) The term *invention*, as used in this part, means any art or process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the patent laws of the United States.

(e) The term *made* as used in this part in relation to any invention, means the conception or first actual reduction to practice of such invention as stated in *In re King*, 3 USPQ2d (BNA) 1747 (Comm'r Pat. 1987).

[61 FR 40999, Aug. 7, 1996]

[TOP]

§501.4 Determination of inventions and rights.

Each Government agency has the approval of the Secretary to determine whether the results of research, development, or other activity in the agency constitute an invention within the purview of Executive Order 10096, as amended by Executive Order 10930 and Executive Order 10695, and to determine the rights in and to the invention in accordance with the provisions of §§501.6 and 501.7.

[61 FR 40999, Aug. 7, 1996]

[TOP]

§501.5 Agency liaison officer.

Each Government agency shall designate a liaison officer to represent the agency before the Secretary; Provided, however, that the Departments of the Army, the Navy, and the Air Force may each designate a liaison officer.

[TOP]

§501.6 Criteria for the determination of rights in and to inventions.

(a) The following rules shall be applied in determining the respective rights of the Government and of the inventor in and to any invention that is subject to the provisions of this part:

(1) The Government shall obtain, except as herein otherwise provided, the entire right, title and interest in and to any invention made by any Government employee:

(i) During working hours, or

(ii) With a contribution by the Government of facilities, equipment, materials, funds or information, or of time or services of other Government employees on official duty, or

(iii) Which bears a direct relation to or is made in consequence of the official duties of the inventor.

(2) In any case where the contribution of the Government, as measured by any one or more of the criteria set forth in paragraph (a)(1) of this section, to the invention is insufficient equitably to justify a requirement of assignment to the Government of the entire right, title and interest in and to such invention, or in any case where the Government has insufficient interest in an invention to obtain the entire right, title and interest therein (although the Government could obtain same under paragraph (a)(1) of this section), the Government agency concerned shall leave title to such invention in the employee, subject however, to the reservation to the Government of a nonexclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all governmental purposes. The terms of such reservation will appear, where practicable, in any patent, domestic or foreign, which may issue on such invention. Reference is made to section 15 of the Federal Technology Transfer Act of 1986 (15 U.S.C. 3710d) which requires a Government agency to allow the inventor to retain title to any covered invention when the agency does not intend to file a patent application or otherwise promote commercialization.

(3) In applying the provisions of paragraphs (a)(1) and (2) of this section to the facts and circumstances relating to the making of a particular invention, it shall be presumed that an invention made by an employee who is employed or assigned:

(i) To invent or improve or perfect any art or process, machine, design, manufacture, or composition of matter;

(ii) To conduct or perform research, development work, or both,

(iii) To supervise, direct, coordinate, or review Government financed or conducted research, development work, or both, or

(iv) To act in a liaison capacity among governmental or non-governmental agencies or individuals engaged in such research or development work,

falls within the provisions of paragraph (a)(1) of this section, and it shall be presumed that any invention made by any other employee falls within the provisions of paragraph (a)(2) of this section. Either presumption may be rebutted by a showing of the facts and circumstances in the case and shall not preclude a determination that these facts and circumstances justify leaving the entire right, title and interest in and to the invention in the Government employee, subject to law.

(4) In any case wherein the Government neither:

(i) Obtains the entire right, title and interest in and to an invention pursuant to the provisions of paragraph (a)(1) of this section nor

(ii) Reserves a nonexclusive, irrevocable, royalty-free license in the invention, with power to grant licenses for all governmental purposes, pursuant to the provisions of paragraph (a)(2) of this section,

the Government shall leave the entire right, title and interest in and to the invention in the Government employee, subject to law.

[53 FR 39735, Oct. 11, 1988, as amended at 61 FR 40999, Aug. 7, 1996]

[TOP]

§501.7 Agency determination.

(a) If the agency determines that the Government is entitled to obtain title pursuant to §501.6(a)(1) and the employee does not appeal, no further review is required.

(b) In the event that a Government agency determines, pursuant to paragraph (a)(2) or (a)(4) of §501.6, that title to an invention will be left with the employee, the agency shall

notify the employee of this determination. In cases pursuant to §501.6(a)(2) where the Government's insufficient interest in the invention is evidenced by its decision not to file a patent application, the agency may impose on the employee any one or all of the following conditions or any other conditions that may be necessary in a particular case:

(1) That a patent application be filed in the United States and/or abroad, if the Government has determined that it has or may need to practice the invention;

(2) That the invention not be assigned to any foreign-owned or controlled corporation without the written permission of the agency; and

(3) That any assignment or license of rights to use or sell the invention in the United States shall contain a requirement that any products embodying the invention or produced through the use of the invention be substantially manufactured in the United States. The agency shall notify the employee of any conditions imposed.

(c) In the case of a determination under either paragraph (a) or (b) of this section, the agency shall promptly provide the employee with:

(1) A signed and dated statement of its determination and reasons therefor; and

(2) A copy of 37 CFR part 501.

[53 FR 39735, Oct. 11, 1988, as amended at 61 FR 40999, Aug. 7, 1996]

[TOP]

§501.8 Appeals by employees.

(a) Any Government employee who is aggrieved by a Government agency determination pursuant to §§501.6(a)(1) or (a)(2), may obtain a review of any agency determination by filing, within 30 days (or such longer period as the Secretary may, for good cause shown in writing, fix in any case) after receiving notice of such determination, two copies of an appeal with the Secretary. The Secretary then shall forward one copy of the appeal to the liaison officer of the Government agency.

(b) On receipt of a copy of an appeal filed pursuant to paragraph (a) of this section, the agency liaison officer shall, subject to considerations of national security, or public health, safety or welfare, promptly furnish both the Secretary and the inventor with a copy of a report containing the following information about the invention involved in the appeal:

(1) A copy of the agency's statement specified in §501.7(c);

(2) A description of the invention in sufficient detail to identify the invention and show its relationship to the employee's duties and work assignments;

(3) The name of the employee and employment status, including a detailed statement of official duties and responsibilities at the time the invention was made; and

(4) A detailed statement of the points of dispute or controversy, together with copies of any statements or written arguments filed with the agency, and of any other relevant evidence that the agency considered in making its determination of Government interest.

(c) Within 25 days (or such longer period as the Secretary may, for good cause shown, fix in any case) after the transmission of a copy of the agency report to the employee, the employee may file a reply with the Secretary and file one copy with the agency liaison officer.

(d) After the time for the inventor's reply to the Government agency's report has expired and if the inventor has so requested in his or her appeal, a date will be set for hearing of oral arguments before the Secretary, by the employee (or by an attorney whom he or she designates by written power of attorney filed before, or at the hearing) and a representative of the Government agency involved. Unless it shall be otherwise ordered before the hearing begins, oral arguments will be limited to thirty minutes for each side. The employee need not retain an attorney or request an oral hearing to secure full consideration of the facts and his or her arguments. The employee may expedite such consideration by notifying the Secretary when he or she does not intend to file a reply to the agency report.

(e) After a hearing on the appeal, if a hearing was requested, or after expiration of the period for the inventor's reply to the agency report if no hearing is set, the Secretary shall issue a decision on the matter within 120 days, which decision shall be final after a thirty day period for requesting reconsideration expires or on the date that a decision on a petition for reconsideration is finally disposed of. Any request for reconsideration or modification of the decision must be filed within 30 days from the date of the original decision (or within such an extension thereof as may be set by the Secretary before the original period expires). The decision of the Secretary shall be made after consideration of the statements of fact in the employee's appeal, the agency's report, and the employee's reply, but the Secretary at his or her discretion and with due respect to the rights and convenience of the inventor and the Government agency, may call for further statements on specific questions of fact or may request additional evidence in the form of affidavits or depositions on specific facts in dispute.

[53 FR 39735, Oct. 11, 1988, as amended at 61 FR 41000, Aug. 7, 1996]

[TOP]

§501.9 Patent protection.

(a) A Government agency, upon determining that an invention coming within the scope of §§501.6(a)(1) or (a)(2) has been made, shall promptly determine whether patent protection will be sought in the United States by or on behalf of the agency for such invention. A controversy over the respective rights of the Government and of the employee shall not unnecessarily delay the filing of a patent application by the agency to avoid the loss of patent rights. In cases coming within the scope of §501.6(a)(2), the filing of a patent application shall be contingent upon the consent of the employee.

(b) Where there is an appealed dispute as to whether §§501.6 (a)(1) or (a)(2) applies in determining the respective rights of the Government and of an employee in and to any invention, the agency may determine whether patent protection will be sought in the United States pending the Secretary's decision on the dispute. If the agency decides that an application for patent should be filed, the agency will take such rights as are specified in §501.6(a)(2), but this shall be without prejudice to acquiring the rights specified in paragraph (a)(1) of that section should the Secretary so decide.

(c) Where an agency has determined to leave title to an invention with an employee under §501.6(a)(2), the agency will, upon the filing of an application for patent, take the rights specified in that paragraph without prejudice to the subsequent acquisition by the Government of the rights specified in paragraph (a)(1) of that section should the Secretary so decide.

(d) Where an agency has filed a patent application in the United States, the agency will, within 8 months from the filing date of the U.S. application, determine if any foreign patent applications should also be filed. If the agency chooses not to file an application in any foreign country, the employee may request rights in that country subject to the conditions stated in §501.7(b) that may be imposed by the agency. Alternatively, the agency may permit the employee to retain foreign rights by including in any assignment to the Government of an unclassified U.S. patent application on the invention an option for the Government to acquire title in any foreign country within 8 months from the filing date of the U.S. application.

[61 FR 41000, Aug. 7, 1996]

[TOP]

§501.10 Dissemination of this part and of implementing regulations.

Each Government agency shall disseminate to its employees the provisions of this part, and any appropriate implementing agency regulations and delegations. Copies of any such regulations shall be sent to the Secretary. If the Secretary identifies an inconsistency between this part and the agency regulations or delegations, the agency, upon being informed by the Secretary of the inconsistency, shall take prompt action to correct it.

[TOP]

§501.11 Submissions and inquiries.

All submissions or inquiries should be directed to Chief Counsel for Technology, telephone number 202-482-1984, Room H4835, U.S. Department of Commerce, Washington DC 20230.

[61 FR 41000, Aug. 7, 1996]

3 of 100 DOCUMENTS

Heinemann v. United States

No. 202-79C

UNITED STATES CLAIMS COURT

4 Cl. Ct. 564; 223 U.S.P.Q. (BNA) 282; 1984 U.S. Cl. Ct. LEXIS 1475

March 1, 1984

LexisNexis (TM) HEADNOTES - Core Concepts:

|*1|

Wilsie H. Adams, Jr., Washington, District of Columbia, for Plaintiff.

Claud A. Daigle, Jr., Washington, District of Columbia, with whom was Assistant Attorney General J. Paul McGrath, for Defendant.

Joseph V. Colaianni, Judge.

COLAIANNI

OPINION:

COLAIANNI, Judge.

On May 15, 1979, plaintiff filed the instant suit in the United States Court of Claims, seeking relief against the United States for an alleged patent infringement. Plaintiff asserted three separate grounds for relief. First, he claimed entitlement to damages for patent infringement under *28 U.S.C. § 1498.* Second, plaintiff sought damages under *35 U.S.C. § 183* due to the defendant's imposition of a secrecy order on plaintiff's invention from 1966 to 1972 and for the alleged use of the invention during this period. Finally, plaintiff alleged a taking of his invention under the fifth amendment. Defendant moved to dismiss all three claims. On April 16, 1980, the Court of Claims granted defendant's motion as to plaintiff's second count for relief, but denied it as to his first and third. *Heinemann v. United States, 233 Ct. Cl. 479, 620 F.2d 874 (1980).*

Subsequently, on January 30, 1981, the **|*2|** Court of Claims ordered that consideration of plaintiff's claim by the trial judge be bifurcated. *Heinemann v. United States, 226 Ct. Cl. 622 (1981).* Under that order the issues of whether the government was entitled to an assignment of, or a royalty-free license in, the invention were to be considered first, with the infringement claim postponed for later determination. Therefore, the sole issues before this court are those of assignment and royalty-free license. Two preliminary issues, however, concern what standard should be used in determining the invention rights and what body--this court or plaintiff's employing agency--should make that determination. Because the court finds that the determination of invention rights should be made by the agency, and not by this court, under the standards framed by Executive Order 10096, proceedings are suspended pending the agency's final determination and any review by the Commissioner of Patents and Trademarks that the parties may seek.

Facts

Plaintiff's association with Picatinny Arsenal extends back to 1957. In February of that year, he joined Picatinny as a GS-11 general chemist. By 1963, Mr. Heinemann had risen to the position **|*3|** of a GS-13 supervisory physical scientist in charge of the Explosive Devices Unit within the Artillery Ammunition Laboratory.

In mid- to late-1963, Mr. Heinemann decided to leave Picatinny for a higher-grade position in Washington, D.C. Shortly after announcing his resignation, he was approached by Mr. Robert Vogel, the head of Picatinny's Ammunition Development Division. Mr. Vogel asked Mr. Heinemann to stay and assured him of a GS-14 position at Picatinny. Subsequently, Mr.

Victor Lindner, the head of the Ammunition Engineering Directorate and Mr. Vogel's direct superior, gave Mr. Heinemann the same assurance, specifically indicating that a position would be found for him in the Warheads and Special Projects (WASP) Laboratory.

The WASP Laboratory was one of several laboratories and branches within the Ammunition Development Division. At this time, the WASP Laboratory was responsible for the research, design, and development of bombs, guided missile warheads, mines, grenades, demolition devices, special warfare munitions, and accessories for those items. The bulk of work in the WASP Laboratory was concentrated in the Selected Ammunition Section. This section was |*4| directed to develop improved conventional munitions, specifically concentrating its research and development effort on utilizing the concepts of clustered munitions and controlled fragmentation. n1 Much of the laboratory's work at this time involved the research and development of anti-armor munitions and the means of incorporating sensors or guidance systems into them.

> n1 A clustered munition is a munition, such as a bomb or missile warhead, that is divided into several submunitions. Each submunition carries its own explosive charge, detonating after the group of submunitions has been dispersed over the target area. Controlled fragmentation involves designing the munition or its parts to create, upon detonation, metal fragments of previously determined size and shape. Both concepts are directed to improving the effectiveness of munitions, first by spreading their fragments over large areas and second by producing fragments of a size and velocity appropriate for disabling the intended target.

On November 5, |*5| 1963, Mr. Heinemann joined the WASP Laboratory. He had no approved job description. Rather, he received his assignments and job duties from the chief of the WASP Laboratory, Mr. Frederick Saxe. Plaintiff worked directly for Mr. Saxe and within six months of arriving at the laboratory was designated "Assistant to the Chief." On December 26, 1965, an approved job description for plaintiff's position as a GS-13 at the WASP Laboratories finally became effective. n2 That description, in pertinent part, summarized plaintiff's job responsibilities as follows:

> To serve as a scientific advisor and consultant to the Chief, Warheads and Special Projects Laboratory, responsible for furnishing expert advice and assistance in the field of physical science and engineering. To develop long and short-range plans for accomplishment of laboratory research objectives. To control and coordinate all supporting research functions in conjunction with the Selected Ammunition Program and Aircraft Weaponization Program. To conceive, screen, and formalize proposed tasks and organize these into cohesive well-integrated programs to result in substantial improvements in ammunition now being produced and |*6| leading to end item development programs in the future. To maintain liaison with research facilities to keep alert of developments in the field of munitions.

> n2 Despite the efforts to establish plaintiff's job as a GS-14 position, plaintiff remained a GS-13 for several years. For purposes of determining whether the government would be entitled to the assignment of, or royalty-free license in, plaintiff's invention, however, plaintiff's grade is irrelevant.

In late 1965, Mr. Heinemann conceived and developed the invention that is now the subject of this suit. He drafted an invention disclosure, entitled "Low Density Indirect Fire Weapon System," and submitted it to the Picatinny legal office on January 7, 1966. That invention disclosure described an intelligent munition system incorporating the concept of controlled fragmentation for the defeat of tanks and armored personnel carriers. Plaintiff's disclosure described the munition system as follows:

> The approach involves a munition, |*7| which drops from the air via a retardation or drag device. It could be dropped from an aerial vehicle or ejected from a missile. The system is shown in the attached schematic drawing. It is composed of the retardation device which may be a parachute, wing or similar drag device (a), an explosive, forward firing warhead (b) and a directional sensor antenna (c) coupled to the warhead, electronics (d) and fuze (e). The drag device, coupling (f) and spin tabs (j) impart a spin and oscillation to the sensor and coupled warhead so that it oscillates through an angle, while it spins and therefore scans

an area below it. The warhead is suspended at an angle (i) to the horizontal [sic] so as to cover a larger view area. A glide device such as a wing in lieu of the retardation device could permit it to cover a larger area. The warhead has a forward spray angle (k) controlled by a wave shaper (h) which is matched and directionally oriented with that of the sensor. The directional sensor can be of the passive, semi-active or active type. It responds to the signature of the target, which may be inherent to the target or induced in the target. As the munition descends, possibly glides, **[*8]** spins and oscillates, the sensor scans an area of land below. If it receives a proper target signature, it immediately initiates the explosive charge and a lethal spray engulfes [sic] the target.

On January 7, 1966, plaintiff executed and forwarded to the Picatinny legal office the three necessary forms for disclosing the invention now at issue. Those forms were: The record of invention (AMC Form 1255), the patent disclosure data sheet (AMSMU Form 78R), and the invention rights questionnaire (DA Form 2871). n3 Plaintiff testified that he requested, through the invention rights questionnaire, a rights determination but none was made. n4

n3 In WASP Laboratory circular No. 19-10, issued by Mr. Saxe on October 26, 1965, these three forms were described as follows:

"The Invention Rights Questionnaire is required to determine whether the rights to an invention belong to the inventor, to the Government, or to both. If all rights are to be assigned to the government, as is usually done when an invention is made as a normal outgrowth of one's regular work, it is only necessary to complete Paragraph I of the form. If the inventor wishes to claim some or all rights, detailed data regarding the circumstances of the invention and its relation to the inventor's employment are required. Some portions must be completed by the inventor's superviser [sic]. This form must be kept unclassified.

"The Military Invention Record is an affidavit stating that a particular invention was made by a specified person or persons, including details of time and place. This form serves primarily as a cover sheet for the detailed description of the invention and *must* be kept unclassified.

"The *Patent Disclosure Data Sheet* is used to provide a detailed description of the invention, along with illustrative sketches. It should provide a complete description of the invention with as many drawings as necessary to explain fully the making and operation of the invention. All essential elements in the drawings should be given reference numerals which relate back to the written description. This completed form will normally have the same security classification as the invention." **[*9]**

n4 When the government reopened plaintiff's case in 1971, the original questionnaire was no longer in plaintiff's file.

Mr. Heinemann's invention, upon disclosure, was classified "secret." At this time, the Frankford Arsenal in Philadelphia processed all patent applications coming out of Picatinny. On May 16, 1967, patent counsel at Frankford found that Mr. Heinemann's disclosure lacked information sufficient to permit him to determine patentability. Counsel stated that the disclosure, although setting forth a concept, failed to provide enough detail "to permit one skilled in the art to make and practice the invention." Counsel requested additional information, but apparently none was given.

On March 13, 1970, plaintiff's invention was again reviewed by the government, this time through the Invention Evaluation Board (IEB) at Picatinny. n5 The IEB initially was reluctant to proceed with plaintiff's invention. In late 1971 or early 1972, however, Dr. A. Victor Erkkila, a patent agent in the Picatinny legal office, was assigned to prepare a patent application for the invention. **[*10]** After several conferences between Dr. Erkkila and Mr. Heinemann, during which Mr. Heinemann explained various aspects of the invention and reviewed Dr. Erkkila's draft, the final application was prepared.

n5 The IEB was established on April 30, 1968, to review pending invention disclosures at Picatinny. Frankford Arsenal was no longer responsible for Picatinny patent determinations.

In March 1972, Mr. Heinemann received a call from a secretary at the Picatinny legal office. The secretary told Mr. Heinemann that the patent application for his

"Low Density Indirect Fire Munition System" had been prepared and that he should come down to sign it along with an assignment of the invention to the government. Mr. Heinemann challenged the need for an assignment and asked to speak with counsel. The individual with whom he spoke n6 told plaintiff that the assignment was required. Mr. Heinemann testified:

> I spoke to the individual in the legal office who told me that I was -- I asked him why would I have to assign |*11| this invention. I was told that this is a military invention. You are working in a military institute and the requirement in this installation is that you must sign an assignment to the invention.
>
> I said, Well, what about invention rights questionnaire, and he responded that an invention rights questionnaire is only applicable to inventions which have commercial capabilities. This was a purely military invention and one which was not commercially oriented and that an assignment was demanded on the invention.
>
> I was not happy with that, and he said, Well, I will send you a document which will show you that you will have to do that and, if you wish, also to give you some Army regulations which you can reference to look up.
>
> * * * *
>
> Based on the conversations I had, I looked at the regulations which were quoted and the documents that they were talking about and everything jived [sic].
>
> Afterwards I got this particular document in the mail, a form. It is basically the record of invention; military record of invention, 00 Form 325, which states in one paragraph the executive order, at least that is what I thought it said. That was the law he was telling me to look at.
>
> Under that |*12| particular document I could not retain entire rights in it.

n6 Plaintiff is unable to identify either the counsel or the secretary.

The form plaintiff received from the Picatinny legal office set forth the provisions of Executive Order 10096, but with the significant omission of part (b)(4), which provides for certain circumstances in which "the entire right, title and interest in and to the invention" may remain with the employee. *See 37 C.F.R. § 100.6(b)*, quoted below.

On March 23, 1972, plaintiff signed the Invention Rights Questionnaire along with a standard assignment form releasing to the government "the entire right, title and interest" in his invention, "in consideration of the rights of the Government of the United States acquired by virtue of the circumstances under which the above-entitled invention was made." On April 12, 1972, the Picatinny legal office filed a patent application for plaintiff's invention. Because plaintiff had signed the Invention Rights Questionnaire directly beneath |*13| the statement "I DESIRE TO ASSIGN TO THE UNITED STATES GOVERNMENT THE ENTIRE RIGHT, TITLE AND INTEREST IN AND TO THE ABOVE IDENTIFIED INVENTION," the government made no formal determination of his rights.

On March 25, 1974, a secrecy order was issued covering plaintiff's invention. The government rescinded the order on May 2, 1977, however, when it discovered that a device in a French patent was similar to plaintiff's invention and an application for a United States patent on its French counterpart had been filed. This rescission permitted normal prosecution of the patent application for plaintiff's invention to resume.

On September 27, 1977, United States Patent No. *4,050,381*, now entitled "Low Density Indirect Fire Munition System," issued.

Plaintiff brought the present action on May 15, 1979, to contest the government's right to an assignment of, or license in, his invention. No administrative invention rights determination in accordance with Executive Order 10096 has ever been made.

Discussion

The court is asked to determine the respective rights of the government and its employee, Mr. Heinemann, in Mr. Heinemann's invention. Under normal circumstances, |*14| this determination would have been made by plaintiff's employing agency in accordance with the standards and procedures of Executive Order 10096, *15 Fed. Reg. 389 (1950). See Kaplan v. Corcoran, 545 F.2d 1073 (7th Cir. 1976).* That order was promulgated on January 23, 1950, and its pertinent sections are codified, with modifications but substantially unchanged, at 37 C.F.R. § 100 (1983). The critical sections of Executive Order 10096, as codified, provide:

§ 100.3 *Scope.*

This part applies to any invention made by a Government employee on or after January 23, 1950, and to any action taken with respect thereto.

* * * *

§ 100.6 *Determination of rights in and to inventions.*

(a) Subject to review by the Commissioner as provided for in this part, *each Government agency will determine the respective rights of the Government and of the inventor in and to any invention made by a Government employee while under the administrative jurisdiction of such agency.*

(b) The following rules shall be applied in determining the respective rights of the Government and of the inventor in and to any invention that is subject to the provisions of this part:

(1) The Government |*15| shall obtain, except as herein otherwise provided, the entire domestic right, title and interest in and to any invention made by any Government employee: (i) During working hours, or (ii) with a contribution by the Government of facilities, equipment, materials, funds or information, or of time or services of other Government employees on official duty, or (iii) which bears a direct relation to or is made in consequence of the official duties of the inventor.

(2) In any case where the contribution of the Government, as measured by any one or more of the criteria set forth in paragraph (b)(1) of this section, to the invention is insufficient equitably to justify a requirement of assignment to the Government of the entire domestic right, title, and interest in and to such invention, or in any case where the Government has insufficient interest in an invention to obtain the entire domestic right, title, and interest therein (although the Government could obtain same under paragraph (b)(1) of this section), the Government agency concerned shall leave title to such invention in the employee, subject however, to the reservation to the Government of a nonexclusive, irrevocable, royalty-free |*16| license in the invention with power to grant licenses for all governmental purposes, such reservation, in the terms thereof or where applicable in the terms required by *35 U.S.C. 266,* to appear, where practicable, in any patent, domestic or foreign, which may issue on such invention.

(3) In applying the provisions of paragraphs (b)(1) and (2) of this section to the facts and circumstances relating to the making of a particular invention, it shall be presumed that an invention made by an employee who is employed or assigned: (i) To invent or improve or perfect any art, machine, design, manufacture, or composition of matter, (ii) to conduct or perform research, development work, or both, (iii) to supervise, direct, coordinate, or review Government financed or conducted research, development work, or both, or (iv) to act in a liaison capacity among governmental or non-governmental agencies or individuals engaged in such research or development work, falls within the provisions of paragraph (b)(1) of this section, and it shall be presumed that any invention made by any other employee falls within the provisions of paragraph (b)(2) of this section. Either presumption may be |*17| rebutted by a showing of the facts and circumstances and shall not preclude a determination that these facts and circumstances justify leaving the entire right, title and interest in and to the invention in the Government employee, subject to law.

(4) In any case wherein the Government neither: (i) Obtains the entire domestic right, title and interest in and to an invention pursuant to the provisions of paragraph (b)(1) of this section nor (ii) reserves a nonexclusive, irrevocable, royalty-free license in the invention, with power to grant licenses for all governmental purposes, pursuant to the provisions of paragraph (b)(2) of this section, the Government shall leave the entire right, title and interest in and to the invention in the Government employee, subject to law.

Emphasis added.

Plaintiff asks this court to find that Executive Order 10096 does not apply to judicial proceedings and therefore the government's rights to the invention at issue should rest solely on the common law. Plaintiff argues:

> Executive Order 10096 * * * * is directed only toward establishing a uniform patent policy for all federal agencies within the Executive Branch.
>
> * * * *
>
> [A] chief |*18| purpose of Executive Order 10096 is to expedite the processing of patent applications by the federal agencies so as to obtain the maximum rights in an invention for the Government * * * *.
>
> * * * *
>
> Thus, Executive Order 10096 is intended to provide the administrative mechanism necessary for expediting the processing of employee invention disclosures within the Executive Branch. As such, its application is limited to the Executive Branch and the judiciary is to play no role in its implementation.

The court agrees that Executive Order 10096 is clearly meant to establish and maintain uniformity in this field. As the order states, its "purpose * * * * is to provide for the *administration of a uniform patent policy* for the Government with respect to the domestic rights in inventions made by Government employees *and* to prescribe *rules and regulations for implementing and effectuating such policy." 37 C.F.R. § 100.1* (emphasis added). To provide government employees with the choice of pursuing rights determinations either through their agencies or through this court, and to apply the separate standards of the executive order or the common law according to which forum they |*19| choose, would frustrate that purpose of the Executive Order and destroy whatever uniformity now exists. As the United States Court of Appeals for the Seventh Circuit noted, the order is "controlling in the [determination of the] status of * * * * [the government employee's] invention vis-a-vis government patent rights." *Kaplan v. Corcoran, 545 F.2d at 1077.* By its terms, the order "applies to any invention made by a Government employee." Therefore, the court finds that Executive Order 10096 provides the sole avenue for determining rights in inventions made by government employees. In addition, that determination is to be made by the employing agency, subject to review by the Commissioner of Patents and Trademarks. *37 C.F.R. § § 100.5-.6.*

Although § 100.6, the operative section for determining rights in an invention, does state guidelines for each governmental agency to follow when making that determination, in the present case no formal agency determination was made because plaintiff filed concurrently with his invention disclosure an invention rights questionnaire in which he voluntarily agreed to assign title to the government. That assignment, however, was |*20| based on misinformation supplied to Mr. Heinemann by the government. Mr. Heinemann testified that he was misled by his conversations with counsel from the Picatinny legal office and by the incomplete copy of Executive Order 10096 counsel provided.

Under these circumstances, the assignment could not have been knowingly and freely given. Had he not been misled, plaintiff would have requested a formal rights determination. The appropriate remedy, however, is not to circumvent the clear procedures established by the order and have this court determine, *de novo,* the respective rights in plaintiff's invention. That a formal agency determination was not made is unfortunate but hardly irremediable.

It is therefore ordered, pursuant to RUSCC 60.1(a), that this case is remanded to Picatinny Arsenal for a final determination, in accordance with Executive Order 10096, of the respective rights of plaintiff and the government in plaintiff's invention. Proceedings in this court will be suspended for six months pending that final determination and pending any subsequent review by the Commissioner of Patents and Trademarks that either party may seek.

Counsel for defendant will, pursuant |*21| to RUSCC 60.1(a)(5), report to the court the status of the proceedings at intervals of 60 days, beginning May 1, 1984.

Joseph V. Colaianni, Judge

1 of 100 DOCUMENTS

In the Matter of: HOWARD M. BERLIN and ARTHUR T. JOHNSON

GPB Case No. 10-3989

U.S. patent 4,220,161

Commissioner of Patents and Trademarks

1986 Commr. Pat. LEXIS 41; 229 U.S.P.Q. (BNA) 463

March 6, 1986, Decided

COUNSEL:
|*1|

John H. Raubitschek
Chief
Patents, Copyrights, and Trademarks Division
Department of the Army
U.S. Army Legal Services Agency
NASSIF Building
Falls Church, Virginia 22041-5013

Arthur T. Johnson
Associate Professor
University of Maryland
College of Agriculture
College Park, Maryland 20742

Howard M. Berlin
P.O. Box 9431
Wilmington, Delaware 19809

OPINIONBY: QUIGG

OPINION:

DECISION ON APPEAL FROM GOVERNMENT EMPLOYEE INVENTION RIGHTS DETERMINATION

This is an appeal by Howard M. Berlin (Berlin) and Arthur T. Johnson (Johnson) under 37 CFR 100.7 from a determination of the Department of the Army (Army) that the Government shall retain the entire right, title and interest in an invention made jointly by Berlin and Johnson. The invention is the subject of U.S. patent 4,220,161 issued on September 2, 1980, based on patent application, Serial No. 569,345, filed April 18, 1975.

The determination of the Army is affirmed.

Background

The invention relates to a device for "measuring human subject (breathing) airway resistance for medical, diagnostic, and other testing and evaluation purposes" (U.S. patent 4,220;161, column 1, lines 13-15).

An invention rights questionnaire signed by **|*2|** Johnson on July 14, 1980, reveals the following:

(1) 400 hours were spent by Johnson making the invention; 200 of those hours were on Government time.

(2) An embodiment (model) of the invention "was manufactured using Government tools and machinery in a Government shop. Testing was performed using Government . . . instruments and apparatus . . . ."

(3) The materials used to fabricate the embodiment were Government owned. Chart paper used on recorders used to test the embodiment were purchased by the Government at an estimated cost of "less than $200."

(4) Approximately 160 hours of Government time was also spent by a Mr. S. A. Purnell, shop personnel, and other Government employees making drawings of, fabricating, and testing the embodiment.

(5) Johnson was "employed or assigned . . . [t]o conduct or perform research or development work . . . [and] [t]o supervise, direct, coordinate or review Government-financed or conducted research or development work . . . ."

(6) Johnson described his duties as follows:

"My duties were to conduct research to determine ways to improve the design of respiratory protective masks and CB protective clothing. I also acted as supervisor to 2-5 |*3| other personnel performing similar duties as well as filter testing and acoustical studies.

* * *

The conception, design, and development of this invention appeared to have promise to facilitate performance of my duties relative to protective mask-man interface analysis."

An invention rights questionnaire signed by Berlin on July 10, 1980, further reveals the following:

(7) An embodiment (model) of the invention "was manufactured in machine shops and tested in laboratories within Government facilities."

(8) 1,100 hours were spent by Berlin making the invention; 500 of those hours were on Government time.

(9) Berlin was "employed or assigned . . . [t]o conduct or perform research or development work." He described his duties in part as follows:

"My duties were to conduct research and development efforts to determine ways to improve the design of respiratory protective masks and CB protective clothing."

Discussion

Paragraph 1(a) of Executive Order 10096 (1950), as amended by Executive Order 10930 (1961), provides that the Government shall obtain the entire right, title, and interest in and to all inventions made by any Government employee (1) during working hours or |*4| (2) with a contribution by the Government of facilities, equipment, materials, funds, or information or of time or services of other Government employees on official duty or (3) which bear a direct relation to or are made in consequence of the official duties of the inventor. See also 37 CFR 100.6(b)(1).

Paragraph 1(c) of the Executive Order provides that in applying the provisions of Paragraph 1(a) to the facts and circumstances relating to the making of any invention:

"it shall be presumed that an invention made by an employee who is employed or assigned . . . to conduct or perform research, development work, or both . . . [or] to supervise, direct, coordinate, or review Government financed or conducted research, development work, or both . . . falls within the provision of paragraph (a) . . . .

* * *

[The] . . . presumption may be rebutted by the facts and circumstances attendant upon the conditions under which any particular invention is made . . . ."
See also 37 CFR 100.6(b)(3).

The presumption of Paragraph 1(c) is manifestly applicable to the facts of this case. Berlin was employed to perform research work. 37 CFR 100.6(b)(3)(ii). Johnson was employed |*5| to perform research (37 CFR 100.6(b)(3)(ii)) and to supervise, direct, coordinate, or review Government financed or conducted research (37 CFR 100.6(b)(3)(iii)).

Apart from the presumption of Paragraph 1(c), the facts demonstrate that the Government is entitled to all right, title and interest under Paragraph 1(a) for several reasons, each of which independently supports the Army's determination in this case.

First, Berlin and Johnson personally spent 1,500 hours making the invention; 700 of those hours were on Government time. An additional 160 hours on Government time was spent by other Government employees making drawings of, fabricating, and testing the embodiment (model) made in Government facilities. 37 CFR 100.6(b)(1)(i); *In re Conway, 228 USPQ 50, 51* (Comm'r. Pat. 1985); *In re Williams, 228 USPQ 381, 382* (Comm'r. Pat. 1985).

Second, an embodiment (model) of the invention was made using Government materials, instruments, and apparatus. 37 CFR 100.6(b)(1)(ii); In re Conway, supra; In re Williams, supra.

Third, in view of the inventors' duties, it is readily apparent that the invention was made "in consequence of the official duties |*6| of the inventor[s]." 37 CFR 100.6(b)(1)(iii).

Berlin and Johnson argue that under the circumstances of this case, the Government is not entitled to title. They concede that an embodiment of the invention was made in Government facilities on Government time by Government employees. However, it is their position that there came a time when they were banned by Government management from working on the invention. While the written record does not clearly reveal the precise time the ban supposedly took place, Johnson indicated orally at a hearing held in connection with this case that the ban occurred approximately six months prior to the time application, Serial No. 569,345 was filed (the application was filed on April 18, 1975). In a paper attached to a letter dated May 14, 1985, Johnson states:

"This ban came at a difficult time in the development of the Airflow Perturbation Device: the invention had been conceived and built, but not tested, and certainly not reduced to practice. At that point, we did not know if the device would perform as expected and what modifications were required. At that point there was an official ban on all activities related to the invention."

At |*7| the hearing, Johnson agreed that, prior to the ban, he felt there was a good chance the invention would work, but that he did not become "totally" convinced it would work until after the ban.

There is little, if any, authority on the meaning of the term "made" in Paragraph 1(a) of the Executive Order. The Army, citing Opinion No. 1 (Mar. 5, 1951) of the former Government Patents Board, states that:

"'made' was defined . . . as being the earlier of . . . [an actual] reduction to practice or . . . [a] written description [which would enable one skilled in the art to actually reduce to practice the invention]." n1
It is unnecessary in this case to define all circumstances under which an invention can be considered "made" within the meaning of Paragraph 1(a) of the Executive Order. Nor is it necessarily appropriate to assume that conception or an actual reduction to practice n2 within the meaning of interference law is required to show that an invention was "made" within the meaning of the Executive Order.

n1 Such a written description would be a "conception" within the meaning of interference law. *Mergenthaler v. Scudder, 11 App.D.C. 264, 1897 Dec. Comm'r. Pat. 724 (D.C.Cir. 1897); Meitzner v. Corte, 410 F.2d 433, 161 USPQ 599 (CCPA 1969);* 1 Rivise & Caesar, Interference Law and Practice, § 110 (Michie Co. 1940).

n2 See e.g., 1 Rivise & Caesar, Interference Law and Practice, § 131 (Michie Co. 1940). See also *Corona Cord Tire Co. v. Dovan Chemical Corp., 276 U.S. 358, 383 (1928)* (a machine is reduced to practice when it is assembled, adjusted and used; a manufacture is reduced to practice when it is completely manufactured). |*8|

In this case, a model of the invention was made in September of 1973. Berlin concedes that "there was a drawing [in existence prior to September of 1973] in order for the shop personnel to manufacture the device." According to Johnson's statement at the hearing, the model is described in the patent application which matured into the patent here in issue. The inventors found it necessary to file the patent application on April 18, 1975 "since the general details of the invention were publicly disclosed by . . . [Berlin] at a medical conference in New Orleans in April, 1974." Details concerning Berlin's publication are available in Medical Instrumentation, Vol. 8, No. 2, p. 141 (April 19, 1974) (U.S. patent 4,220,161, column 5, lines 40-42). The existence of the shop drawings, the model itself, and the description in Medical Instrumentation prior to the ban, and the fact that the device described in the patent application was the model

made prior to the ban, collectively constitute a basis for finding that the invention was "made" prior to the ban within the meaning of Paragraph 1(a) of the Executive Order. Hence, management's imposition of the "ban" is irrelevant.

On this record, **[*9]** it is contended that Berlin and Johnson are entitled to title based on principles announced in *United States v. Dubilier Condenser Corp., 288 U.S. 178, 17 USPQ 154 (1933).* In *Dubilier, 289 U.S. at 187, 17 USPQ at 158,* the Supreme Court said:

"One employed to make an invention, who succeeds, during his term of service, in accomplishing that task, is bound to assign to his employer any patent obtained. The reason is that he has only produced that which he was employed to invent. His invention is the precise subject of the contract of employment. A term of the agreement necessarily is that what he is paid to produce belongs to his paymaster. On the other hand, if the employment is general, albeit it covers a field of labor and effort in the performance of which the employee conceived the invention for which he obtained a patent, the contract is not so broadly construed as to require an assignment of the patent." (citations omitted).

After Dubilier, Executive Order 10096 was issued by President Truman. According to the Executive Order, the President indicated that he was taking action "by virtue of authority vested in me by . . . statutes [of the United States]." **[*10]** The statutory authority for the President to constitutionally issue the Executive Order was upheld in *Kaplan v. Corcoran, 545 F.2d 1073, 192 USPQ 129 (7th Cir. 1976).* The Seventh Circuit held that the Executive Order was properly issued based on the President's statutory authority under *5 U.S.C. § § 301,* 3301, and 7301. The Executive Order is thus "controlling in the status of . . . [Berlin and Johnson's] invention vis-a-vis government patent rights." *545 F.2d at 1077, 192 USPQ at 132.*

The Executive Order was promulgated "to provide for uniformity among federal agencies in determining the respective rights of the government and its employees in inventions made by the employees." Tresansky, "Patent Rights in Federal Employee Inventions," 67 J. Pat. & Trade. Off. Soc'y 451, 452 (1985). Adherence to the provisions of the Executive Order is essential if the uniformity sought to be established by President Truman and succeeding Presidents is to be achieved. The various agencies of the Government are obligated to apply its provisions. This is precisely what the Army did in this case.

Decision

The determination of the Army that the Government is entitled to an assignment **[*11]** of all right, title, and interest in and to the above-identified invention is affirmed.

DONALD J. QUIGG
Assistant Secretary and Commissioner of Patents and Trademarks

8 of 100 DOCUMENTS

Halas v. United States

No. 252-89C

UNITED STATES COURT OF FEDERAL CLAIMS

28 Fed. Cl. 354; 1993 U.S. Claims LEXIS 36

May 6, 1993, Filed

DISPOSITION: [*1] Defendant's motion for dismissal is denied and defendant's motion for summary judgment is hereby granted.

LexisNexis (TM) HEADNOTES - Core Concepts:

Edward Halas, Detroit Michigan, pro se plaintiff.

William C. Bergmann, Washington, D.C., with who was Assistant Attorney General Stuart M. Gerson, for defendant. Vito J. DiPietro, Director, and John Fargo, of counsel.

FUTEY

BOHDAN A. FUTEY

OPINION:

OPINION

Futey, Judge.

This patent case is before the court on defendant's motions for dismissal and for summary judgment. Plaintiff seeks compensation under *28 U.S.C. § 1498*(a) (1988) for the government's alleged unauthorized use of his patented invention. Defendant contends that plaintiff is not the equitable owner of the patent at issue and, therefore, this court lacks jurisdiction over plaintiff's claim. Alternatively, defendant argues that, because there is no genuine issue as to any material fact regarding the government's rights to the patent in question, the government is entitled to judgment as a matter of law. Plaintiff counters that he owns the patent at issue.

Factual Background

Plaintiff, Edward Halas, appears *pro se* before the court. On October 1, 1965, plaintiff filed patent [*2] application Serial No. 492,110 ('110 application) in the United States Patent Office (Patent Office). On May 1, 1968, the patent examiner requested that plaintiff restrict the '110 application to a single invention. The examiner considered plaintiff's application actually to claim three separate, though related, inventions: Group I, claims drawn to a motor generator with field and armature coils; Group II, claims drawn to a magnetic field producing means; and Group III, claims drawn to a magnetic shaft coupling device. Plaintiff elected the Group I claims as the claims of the '110 application on August 27, 1968. n1

n1 These claims eventually matured into United States Patent No. *3,521,091,* which is the subject of a related opinion by this court, *Halas v. United States,* No. 572-88C (Fed. Cl. filed April 16, 1993).

On December 20, 1968, plaintiff filed a continuation-in-part application, Serial No. 785,622 ('622 application), which contained as its claims the Group II claims from the '110 application. On June 8, [*3] 1971, the Patent Office issued plaintiff United States Patent No. *3,584,246* (*'246* patent), entitled "Magnetic Field Producing Means," from the '622 application. The *'246* patent contains 10 claims, all describing magnetic field producing means for use in apparatus such as generators or motors, comprising superconductive foil strips n2 arranged in specific manners and cooled by a fluid maintained at cryogenic temperatures. n3

n2 A superconductive material is one that ceases to have any measurable electrical resistance when cooled to aabsolute zero, the temperature at which substances possess no thermal energy (equal to -273.15 degrees C or -459.67 degrees F).

n3 A comparison of the specifications of the '110 application and the '622 application reveals that the differences between the two are minor. The only significant new matter that the '622 application's specifications include is a short paragraph explaining that superconductors may be plated with niobium or aluminum. Neither of these materials, however, are claimed in the *'246* patent. The Army patent counsel who made the recommendations for the Determination of Rights GPB 10-4364 concluded that the claims of the *'246* patent are fully supported by the '110 application's specifications, and, thus, the invention of the *'246* patent must have been made prior to the filing of the '110 application on October 1, 1965.

|*4|

On December 30, 1982, pursuant to *10 C.F.R. § 782.5* (1982), plaintiff filed an administrative claim with the Department of Energy (DOE) for infringement of the *'246* patent. Plaintiff alleged that, without plaintiff's authorization, DOE funded laboratories that constructed coils like those claimed in the *'246* patent. On April 4, 1984, DOE denied plaintiff's claim. n4

n4 Defendant's Answer at p. 1 (Cl. Ct. filed May 10, 1991).

On May 4, 1989, plaintiff filed a complaint in this court. n5 As in his administrative claim with DOE, plaintiff alleges that DOE funded laboratories that fabricated superconducting coils claimed in the *'246* patent without plaintiff's permission. Thus, plaintiff seeks compensation n6 for the alleged unauthorized manufacture of the *'246* patent for and use of the *'246* patent by the government pursuant to *28 U.S.C. § 1498*(a).

n5 On October 29, 1992, the United States Claims Court was renamed the United States Court of Federal Claims, pursuant to Title IX of the Federal Courts Administration Act of 1992, Pub. L. No. 102-572, 106 Stat. 4506 (1992). The United States Court of Federal Claims is the successor to the United States Claims Court in all respects. |*5|

n6 Specifically, plaintiff seeks "10% of the construction of the coils that infringed on plaintiff's patent rights, in all of their many applications."

On October 2, 1989, defendant filed a motion to stay proceedings and remand to the Department of the Army (Army) the question of whether and to what extent the government has rights in the *'246* patent. Defendant argued that plaintiff appeared to have been employed by the government when he filed the '110 application, from which the *'246* patent ultimately issued. As a result, defendant maintained, the government may have an interest in the *'246* patent under Executive Order (E.O.) 10096, codified at *37 C.F.R. § 501.6* (1988). n7 The court granted defendant's motion on October 13, 1989.

n7 Executive Order (E.O.) 10096, 3 C.F.R. 292 (1949-1953 Comp.), amended by E.O. No. 10930, 3 C.F.R. 456 (1959-1963 Comp.), codified at 37 C.F.R. § 501 (1992). The regulations issued pursuant to E.O. 10096 provide for an administrative determination by the government agency employing the inventor. 37 C.F.R. § 501; *Heinemann v. United States, 796 F.2d 451, 454 (Fed. Cir. 1986), cert. denied, 480 U.S. 930, 94 L. Ed. 2d 758, 107 S. Ct. 1565 (1987).*

|*6|

On February 2, 1990, the Army sent plaintiff form number DA 2871 (Form DA 2871), an information document that the Army routinely uses in making invention rights determinations. Form DA 271 contains questions about the circumstances under which an invention was made, government contributions to the invention's making, and the relationship between the invention and the inventor's work-related duties. Form DA 2871 also allows the inventor to state any additional facts that might be relevant to the rights determination. The Army requested that plaintiff complete and return Form DA 2871.

By letter dated February 8, 1990, plaintiff indicated that he did not intend to respond to the Army's request for information. Plaintiff explained that it would be "inappropriate for [him] to converse with [the Army] during the legal proceedings without danger of a mistrial being called."

On February 23, 1990, the Army again wrote plaintiff, explaining the reasons and need for plaintiff's cooperation in completing Form DA 2871. The Army noted that it did not understand plaintiff's fear of a mistrial, given that the Claims Court had stayed proceedings and remanded the case specifically to the Army to determine [*7] the government's rights in plaintiff's invention. The Army also requested plaintiff to provide his social security number, which the Army intended to use to locate plaintiff's government employment records. In a March 6, 1990 letter, plaintiff again refused to comply with the Army's requests, stating that he did not "really have anything for" the Army.

On May 15, 1990, defendant asked the court to stay this case for an additional 6 months to allow the Army to continue the patent rights determination. The court granted defendant's request on June 6, 1990.

On June 22, 1990, plaintiff appealed this court's June 6, 1990, order to the United States Court of Appeals for the Federal Circuit. The Federal Circuit dismissed plaintiff's appeal on August 27, 1990, because, as an interlocutory order, this court's June 6, 1990, Order was not final or appealable. *Halas v. United States, 915 F.2d 1583 (Fed. Cir. 1990), cert. denied, Halas v. Dep't of Energy, 498 U.S. 1028, 112 L. Ed. 2d 672, 111 S. Ct. 680 (1991)* and *cert. denied, Halas v. United States, 498 U.S. 1067, 112 L. Ed. 2d 847, 111 S. Ct. 784 (1991).*

On October 25, 1990, the Army issued Determination of Rights GPB [*8] Case Number 10-4364 (Determination of Rights GPB 10-4364) for the *'246* patent. Based on the evidence before it, the Army determined, pursuant to E.O. 10096, that the government is entitled to the entire right, title, and interest in and to the inventions claimed in the *'246* patent.

The Army notified plaintiff of his right to appeal the Army's decision to the Under Secretary of Commerce for Economic Affairs (Under Secretary) within 30 days from October 25, 1990, pursuant to *37 C.F.R. § 501.8(a)* (1990). n8 Plaintiff did not appeal the Army's decision to the Under Secretary. Pursuant to *37 C.F.R. § 501.7(a)*, the Army's decision became final.

n8 Pursuant to *55 Fed. Reg. 38983-01 (1990),* such appeals are now heard by the Under Secretary of Commerce for Technology.

On January 22, 1992, defendant filed in the court a motion for leave to file documents *in camera* pending a court order for their public release. The documents included a motion for dismissal and for summary judgment. After a lengthy [*9] discovery period, the parties now have completed filing all appropriate responses to defendant's motion for dismissal and for summary judgment and the case is ready for disposition. n9

n9 On January 11, 1993, the court issued an order stating that it would grant plaintiff's request for oral argument on defendant's motions if plaintiff so desired. Plaintiff, however, did not respond to this order.

Discussion

I. Jurisdiction

In ruling on a motion to dismiss for lack of subject matter jurisdiction under RCFC 12(b)(1), the court must accept as true the complaint's undisputed factual allegations and should construe them in a light most favorable to the plaintiff. *Scheuer v. Rhodes, 416 U.S. 232, 236, 40 L. Ed. 2d 90, 94 S. Ct. 1683 (1974); Hamlet v. United States, 873 F.2d 1414, 1415 (Fed. Cir. 1989); Reynolds v. Army & Air Force Exch. Serv., 846 F.2d 746, 747 (Fed. Cir. 1988).* For *pro se* complaints, the court should hold plaintiff's allegations [*10] "to less stringent standards than formal pleadings drafted by lawyers . . . ." *Hughes v. Rowe, 449 U.S. 5, 9, 66 L. Ed. 2d 163, 101 S. Ct. 173 (1980) (quoting Haines v. Kerner, 404 U.S. 519, 520, 30 L. Ed. 2d 652, 92 S. Ct. 594 (1972)).* If the undisputed facts reveal any possible basis on which the non-moving party might prevail, the court must deny the motion. *Scheuer, 416 U.S. at 236; W.R. Cooper Gen. Contractor, Inc. v. United States, 843 F.2d 1362, 1364 (Fed. Cir. 1988).* If the motion challenges the truth of the jurisdictional facts alleged in the complaint, however, the court may consider relevant evidence in order to resolve the factual dispute. *Land v. Dollar, 330 U.S. 731, 735, 91 L. Ed. 1209, 67 S. Ct. 1009 (1947); Rocovich v. United States, 933 F.2d 991, 994 (Fed. Cir. 1991).* Plaintiff bears the burden of establishing subject matter jurisdiction. *KVOS, Inc. v. Assoc. Press, 299 U.S. 269, 278, 81 L. Ed. 183, 57 S. Ct. 197 (1936); Rocovich, 933 F.2d at 993.*

Under *28 U.S.C. § 1498*(a), this court has jurisdiction over patent [*11] claims against the United States government. n10 Section 1498(a) does not confer a right of action upon a patentee or assignee of a patentee, however, where the government has all rights to the patent at issue. In its Determination of Rights GPB 10-4364, the Army found that the government is entitled to the entire right, title, and interest in and to the invention claimed in the *'091* patent. Plaintiff disputes these findings.

n10 The theory behind this court's jurisdiction under *28 U.S.C. § 1498*(a) is that the government's unlicensed use of a patented invention is a taking. *Motorola, Inc. v. United States, 729 F.2d 765, 768 (Fed. Cir. 1984).* Thus, where plaintiff argues that the government "infringed" his patent, he would be more technically correct in asserting that the government made "unauthorized use" of his patent. *See Judin v. United States, 27 Fed. Cl. 759 (Fed. Cl. 1993); Deuterium Corp. v. United States, 16 Cl. Ct. 454, 459 n.3 (1989).* Nevertheless, the legal standards for ascertaining unauthorized use of a patent under § 1498(a) are equivalent to the standards for ascertaining infringement under *35 U.S.C. § 271. Motorola, 729 F.2d at 768; Deuterium, 16 Cl. Ct. at 459 n.3.*

[*12]

As a threshold matter, however, defendant argues that the court should dismiss plaintiff's complaint for lack of subject matter jurisdiction pursuant to RCFC 12(b)(1). Defendant maintains that, under the exhaustion of administrative remedies doctrine, this court has no jurisdiction to review the Army's Determination of Rights GPB 10-4364 because plaintiff refused to cooperate with the Army's counsel during the Army's decision-making process and failed to appeal the Army's decision to the proper administrative authority.

A. Exhaustion of Administrative Remedies

The doctrine of exhaustion of administrative remedies (exhaustion doctrine) provides "that no one is entitled to judicial relief for a supposed or threatened injury until the prescribed administrative remedy has been exhausted." *Myers v. Bethlehem Shipbuilding Corp., 303 U.S. 41, 50-51, 82 L. Ed. 638, 58 S. Ct. 459 (1938); McKart v. United States, 395 U.S. 185, 193, 23 L. Ed. 2d 194, 89 S. Ct. 1657 (1969).* In cases where a litigant seeks judicial relief before the administrative process is complete, courts commonly apply the exhaustion doctrine to avoid premature interruption of the administrative process. *McKart, 395 U.S. at 193.* **[*13]** Use of the exhaustion doctrine "allow[s] an administrative agency to perform functions within its special competence--to make a factual record, to apply its expertise, and to correct its own errors so as to moot judicial controversies." *Parisi v. Davidson, 405 U.S. 34, 37, 31 L. Ed. 2d 17, 92 S. Ct. 815 (1972)* [citations omitted].

The exhaustion doctrine also serves certain purposes in cases like the instant one, where the administrative process is at an end and the litigant seeks judicial review of an administrative decision that the litigant failed to appeal, or in which the litigant failed to cooperate. Judicial review requires time and resources. Litigants can make judicial review easier, and often avoid it altogether, if they cooperate in the administrative process and fully pursue their administrative remedies. *McKart 395 U.S. at 195.* When litigants fail to do so, however, they make later judicial review difficult. If, for example, a litigant declines to provide necessary information to the administrative agency, then the reviewing court must struggle with an incomplete record in making its decision. *Id. at 194.* By **[*14]** refusing to review an administrative decision where the litigant has not cooperated in the administrative process, courts send future litigants the message that if they fail to exhaust their administrative remedies, then they jeopardize their chances both for a favorable administrative decision and for later judicial relief from an unfavorable decision. *Id. at 199-200.* In so doing, courts can help to curb the "frequent and deliberate flouting of administrative processes [that] could weaken the effectiveness of an agency by encouraging people to ignore its procedures." *Id. at 195.*

Courts must apply the exhaustion doctrine with "an understanding of its purposes and of the particular administrative scheme involved." *McKart, 395 U.S. at 193.* If there is a statute mandating that a party exhaust its administrative remedies before seeking judicial review of the agency's decision, then the exhaustion doctrine automatically applies to deprive a reviewing court of subject matter jurisdiction over a claim filed by a party who has failed to exhaust its administrative remedies under that statute. If no **[*15]** statute exists, or if the relevant statute does not mandate exhaustion of remedies, however, then the reviewing court has jurisdiction over claims filed by plaintiffs who failed to exhaust their administrative remedies. *Mathews v. Eldridge, 424 U.S. 319, 328, 330, 47 L. Ed. 2d 18, 96 S. Ct. 893 (1976); Montgomery v. Rumsfeld, 572 F.2d 250, 253-54 (9th Cir. 1978); Omni Moving & Storage of Va., Inc. v. United States, 21 Cl. Ct. 224, 230 (1990).*

The relevant statute in the instant case is 37 C.F.R. § 501, which sets forth the administrative scheme through which a government agency may determine its rights in inventions made by its employees, and through which aggrieved employees may seek relief from the agency's decision. Under § 501.8, government employees who are aggrieved by a government agency determination pursuant to 501.6(a)(1) or (a)(2) have a right to appeal the agency's determination to the Under Secretary; no employee is, however, required to appeal. *See McKart, 395 U.S. at 195.* Moreover, nothing in § 501 appears to limit judicial review of an agency's final patent rights

determination [*16] where the litigant failed to appeal that determination to the Under Secretary and where the appeals period has expired. *Cf. Mathews, 424 U.S. at 327; Dresser Operations, Inc. v. United States, 128 Ct. Cl. 294, 297, 121 F. Supp. 619 (1954).* Finally, the court is unaware of any precedential decision that mandates application of the exhaustion doctrine under the instant circumstances. Therefore, the court finds that it has subject matter jurisdiction over plaintiff's complaint and that application of the exhaustion doctrine is discretionary, not mandatory. *Omni, 21 Cl. Ct. at 230; see also Lucas v. United States, 25 Cl. Ct. 298, 307 n.8 (1992).*

There are a number of compelling reasons why the exhaustion doctrine should apply in the instant case. First, plaintiff deliberately failed to cooperate in the administrative process. *See McGee v. United States, 402 U.S. 479, 485, 29 L. Ed. 2d 47, 91 S. Ct. 1565 (1971).* Specifically, plaintiff refused to participate in the Army's Determination of Rights GPB 10-4364 despite repeated requests for information by counsel at Ft. Belvoir. Plaintiff's [*17] failure to answer the Army's questions prevented the Army from compiling a more comprehensive administrative record and from applying its expertise in relation to plaintiff's claim.

Second, plaintiff's failure to appeal the Army's decision deprived the appeal board of the opportunity to apply its factfinding expertise to the record that was available and deprived plaintiff of an opportunity to supplement the record with any additional facts that it originally had neglected to provide.

Moreover, plaintiff has not provided a reasonable excuse for his failure either to cooperate in providing the information that the Army requested or to appeal the Army's decision. Plaintiff maintains that he chose not to provide the Army with its requested information for fear that conversing with the Army could result in a mistrial. Plaintiff's concern, however, was unfounded. In its order issued October 13, 1989, the court stayed proceedings and remanded the instant ease to the Army to determine the government's rights in the *'246* patent. This order shows that the Army's Determination of Rights GPB 10-4364 was conducted under the court's auspices. The Army, in turn, acted pursuant to its standard procedures [*18] in asking that plaintiff fill out Form DA 2871. The Army did not request any information other than that required to make its Determination of Rights GPB 10-4364, nor did it indicate that it intended to use the information in any way other than that provided for in its statutory procedures. n11

n11 The court understands that, at the time he notified the Army of his concern about a mistrial, plaintiff may have believed in good faith that his concern was legitimate. If plaintiff did so believe, however, then he should have communicated his concern to the court, which he did not.

Finally, the unusual circumstances traditionally warranting exception to the exhaustion doctrine do not exist in the instant case. In the past, courts refused to apply the exhaustion doctrine where administrative remedies were inadequate or litigants' resort to them would have been futile, *Asociacion Colombiana de Exportadores de Flores v. United States, 916 F.2d 1571, 1575 (Fed. Cir. 1990); Cooper v. Secretary of the Army, 807 F.2d 988, 990 (Fed. Cir. 1986);*